

Philippine Abstracts

A quarterly classified summary of the latest Philippine publications in the field of science and its applications (UDC 5 and 6)

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PHILIPPINE ABSTRACTS

A quarterly classified summary of the latest Philippine publications
in the field of science and its applications (UDC 5 and 6)

Vol. 12, Nos. 3-4

July - December 1971

PHYSICS

539.16.08

Radioactivity - Measurement.

152. Dose measurement in the gamma irradiation facility using TLD. Norma T. Bustamante (Health Physics Dept., Philippine Atomic Research Center, Diliman, Quezon City). Manila, Philippine Atomic Energy Commission, Oct. 1970. 4 ℓ . 11p. 12 ℓ . graphs, tables. 6 refs. [PAEC (D) 706]

Solid state dosimeters were used to measure the dose inside the dry gamma irradiation facility from 20,000 Ci 60 Co source. Application of thermoluminescence dosimetry (TLD) showed that dose measurements can be done at close intervals, a wide range can be measured and the dosimeters can be re-used after annealing. However, these dosimeters are applicable to relative measurements only since calibration to known doses is needed before they can be used.

CHEMISTRY

547.26-11.07:665.353.6

665.353.6:547.26-11.07

Esterification.

Coconut oil.

153. Studies on the preparation of pure methyl ester from coconut fatty acids. William C. Padolina (Researcher, Canlubang Sugar Estate, Canlubang, Laguna). *Chemists' Quarterly*, Dec. 1970, v.9, no.2, p.9-25. graphs, tables, diagr. 14 refs.

The chromatographic results revealed that coconut oil has $0.17 \pm 0.04\%$ caproic acid, $6.00 \pm 0.07\%$ caprylic acid, $5.73 \pm 0.48\%$ capric acid, $53.43 \pm 1.62\%$ lauric acid, $20.26 \pm 0.04\%$ myristic acid, $7.56 \pm 0.49\%$ palmitic acid and $6.80 \pm 1.00\%$ of the unresolved stearic-oleic-linoleic acid fraction. About 93.2% of the oil is composed of saturated acids. Of the caprylate, laurate and myristate fractions collected, only 29.2% of the 0.1096 g computed yield were for caprylate fraction; 34.4% of 4.1727 g yield for laurate; and 18.8% of 1.1281 g yield for myristate. The most promising fractions are the methyl laurate and myristate although further studies should be made to determine the most economical way of producing the esters.

547.784.2:541.124.7

Histidine.

154. The coupling reaction of histidine and N-methyl histidine with p-diazobenzenesulfonic acid. Evelina C. Laserna (University of the Philippines, Diliman, Quezon City). *Chemists' Quarterly*, April 1970, v.9, no.1, p.24-46. graphs, tables. 36 refs.

A modification of the Greenstein procedure was adopted by omitting ethanol, and reducing sulfanilic acid and sodium carbonate concentrations. The method gave more reproducible results. Spectrophotometric data revealed 2 maximal wavelengths at 360 and 490 m which are characteristics of mono and bisazo-coupling products of

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histidine. Electrophilic diazonium attack occurred preferentially at the imidazole nucleus. The reaction of N1-methyl histidine and N3-methyl histidine with p-diazobenzenesulfonic acid gave a colorless product which absorbed maximally at 360 m. .

GEOLOGY. METEOROLOGY AND CLIMATOLOGY

550.8

Geological survey.

155. Brief geology of a portion of the Baguio Mineral District. Rolando Peña (Geologist, Bureau of Mines, Manila).

Journal of the Geological Society of the Philippines, Dec. 1970, v.24, no.4, p.41-43. map.

The district comprises the southern portion of the Central Cordillera, the core consisting of a synorogenic batholithic mass of diorite. The oldest formation recognizable is the Pugo Formation unconformably overlain by the Zigzag Formation. Kennon Limestone is found conformably overlying the Zigzag Formation and superjacent to the Kennon Limestone is the Klondyke Conglomerate overlain by the Rosario Formation. An intricate pattern of faults transects the district. Some of the major breaks are recognized to be branches of the Philippine Rift and in which some of the mineralized zone are localized. Block faulting during the Quaternary accompanied by uplift was found responsible for the great elevation of the region around Baguio City.

550.8

Geology. Mineral exploration.

156. Geology, mineralization and exploration program in Philex Mines, Tuba, Benguet. Pastor T. Quinto, Jr. (Chief Geologist, Philex Mines, Ben-

guet). *Journal of the Geological Society of the Philippines*, Dec. 1970, v.24, no.4, p.44-46.

The Sto. Tomas II orebody located at the western end of Banget Canyon is localized at the contact between andesites and a complex suite of dioritic rocks. Mineralization consists of a stockwork of quartz veinlets as well as disseminations. Recent exploration points to the existence of a poorly metallized core along the immediate southerly ore limits of the main orebody, around which satellite ore zones are probable to be found. The core is made up of andesite porphyry, which is elliptical in plan with its major axis trending NW. This trend is parallel to the mineralized structures found in the main orebody.

551.55:551.578(914)

Rain and rainfall. Winds.

157. An analysis of the relationship between the position of the major wind discontinuity and the position of areas of rainfall over the Philippines. Gaudioso R. Tabamo. Quezon City, Dept. of Meteorology, Weather Bureau, Aug. 1970. vii, 8lp. charts, graphs, tables, diagr. 27 refs. (Technical series no. 4)

The period under review is 1964-1967. Data showed that the major wind discontinuity was discernible over the Philippines on 473 of the 12-hourly wind charts drawn during the period. It was found that rainfall was greater at one or both sides of the wind discontinuity than at the discontinuity itself, and that diurnal temperature variation has an influence on rainfall.

551.578

Rain and rainfall.

- 158. Rainfall and soil water variability with reference to land use planning.** Geo W. Robertson. Quezon City, Weather Bureau, Jan. 1970. 32p. graphs, tables. 11 refs. (Technical series no.1)

Techniques for calculating the anticipated frequency and intensity of floods and droughts, and the probable duration of wet and dry spells are discussed. These methods if used rationally are valuable aids in planning irrigation systems, flood control, forest management, new crop introductions, alternate land use and soil and water conservation practices.

BIOLOGY

576.89

Parasites. Food as carrier of infection.

- 159. Parasitism and foods.** Carmen C. Velasquez (College of Arts and Sciences, University of the Philippines Diliman, Quezon City). *Journal of the Philippine Pharmaceutical Association*, Oct.-Dec. 1968, v.54, nos.10-12, p.35-46. tables. 16 refs.

The most important animal parasites transmissible to man from lower forms of animals are discussed, namely: 1) those transmitted through food contamination; 2) those transmissible through aquatic intermediate hosts; and 3) meat-carried helminth parasites. Majority of parasites of lower animals which have been reported as occurring in man with emphasis on those found in the Philippines are listed. It is explained that eating habits offer opportunities for the transmission of parasites in man.

BOTANY

581.5 + 591.5

Plants, Effect of climate on.

Animals, Effect of climate on.

- 160. Response of some plant and animal species to physical stress in the tropical environment.** Leopoldo B. Uichanco. *Philippine Journal of Science*, June 1969(1971), v.98, no.2, p.155-168. tables. 18 refs.

Observations showed that animals and plants from the temperate zone degenerated in the tropics. However, some animals which survived the shock from the change in environment reproduced. Many perennial species of plants became sterile except those located in higher latitudes, while some annual plant species were resilient in either climate. High mortality among certain plant species was due to common pathogens.

582.267.3:581.17

Caulerpa.

- 161. Cytochemical and developmental studies of callose formation in three species of Caulerpa.** Macrina T. Zafaralla and Julia B. Pantastico (Dept. of Agricultural Botany, College of Agriculture, University of the Philippines, College, Laguna). *Philippine Agriculturist*, Dec. 1970-Jan. 1971, v.54, nos.7-8, p.345-358. tables, illus. 11 refs.

Caulerpa sertularoides, *C. sertulata* and *C. racemosa* were compared based on thallus development with special emphasis on callose accumulation. The thallus was found to be of the coenocytic type. Callose was observed to continually deposit on the differentiated trabeculae as spherical masses that gradually assume an amorphous and finally an elongated shape

through coalescence. At maturity, it is massively accumulated in foliar branches particularly at the base of these structures. The amount of callose gradually decreases from base to apex of the thallus of *C. serrulata* and *C. racemosa*, except in *C. sertularoides* where callose is accumulated in the median region. The relative total amount of callose deposition is greatest in *C. sertularoides*, moderate in *C. serrulata* and least in *C. racemosa*.

582.47:581.192

Conifers - Chemical composition.

162. Proximate chemical composition of some Philippine coniferous woods. P.C. Francia, E.U. Escolano, J.A. Semana and B.O. Bawagan (Forest Products Research & Industries Development Commission, College, Laguna). *Philippine Lumberman*, Nov. 1970, v.26, no.11, p.26, 28, 30. tables. 21 refs.

The proximate chemical analysis of 6 species showed that like the relationship between the North American softwoods and hardwoods, the Philippine softwoods compared with hardwoods have higher lignin and less pentosan contents. However, the Philippine softwoods and hardwoods gave similar holocellulose. Malakauayan (*Podocarpus philippinensis* Foxw.) gave the highest lignin content (38.4%) and almaciga (*Agathis philippinensis* Warb.), the least pentosan content. Except for malakauayan, the other species are potential raw materials for papermaking. Mindoro pine (*Pine merkusii* Jungh. & de Vr.) was found a probable high yielding source of naval stores.

ZOOLOGY

593.12(914)

Foraminifera.

163. Philippine cretaceous smaller foraminifera. Milagros V. Reyes and Elvira P. Ordoñez (Paleontologists, Bureau of Mines, Manila). *Journal of the Geological Society of the Philippines*, June 1970, v.24, no.2, p.1-67. maps, tables, illus. 48 refs.

A study on the occurrence of cretaceous foraminifera in the Philippines was conducted to trace the morphogenetic development of the fauna and to establish foraminiferal sequence within the different cretaceous stages. To date, there are 6 confirmed cretaceous localities. Identification of the species was based on morphologic comparison with actual specimens from the collection of the National Iranian Oil Co. (Iran) and on published data of specimens from other parts of the world. The classification was largely based on the "Treatise on Invertebrate Paleontology" Part C (Leoblich & Tappan, 1964). The sequence of the Philippine fauna was found comparable with established standards from other tropical areas of the world.

A systematic description of 49 species is presented.

593.14

Rhizopoda.

164. Notes on the upper cretaceous Radiolaria of Tanay, Rizal. Elvira P. Ordoñez (Paleontologist, Bureau of Mines, Manila). *Journal of the Geological Society of the Philippines*, June 1970, v.24, no.2, p.120-128. illus. 5 refs.

The Radiolaria described was taken from the lower sandstone-shale series

of the Kinabuan Formation in Tanay (Rizal). It was noted that the assemblage from the series is within the "transition zone" which has an age equivalent of Upper Santonian-Lower Campanian stage based on the *Globotruncana* fauna associated with it. A systematic description of 8 species is presented. These species were found identical with the Radiolaria from Puerto Rico and Middle California.

595.771

Mosquitoes.

165. Determination of the distribution and abundance of mosquitoes in selected geographic areas. Benjamin D. Cabrera, Francisco E. Baisas and Domingo Santiago. *Acta Medica Philippina*, ser.2, Oct.-Dec. 1970, v.7, no.2, p.40-81. graphs, map, tables. 10 refs.

A 12-mo. survey of mosquito species was conducted in some residential area, forested low area, mountainous elevated area and forested restricted area. The survey revealed 92 species belonging to 12 genera. 8 species were of medical importance implicated in the transmission of diseases. *Anopheles minimus flavirostris* and *Culex tritaeniorhynchus* were caught in inhabited areas such that malaria and Japanese B encephalitis which are caused by these 2 species may occur in epidemic forms.

595.771:591.2:616.993(914)

Mosquitoes.

Plasmodium juxtannucleare.

166. A study of the mosquito intermediate host of Plasmodium juxtannucleare in the Philippines. Mauro F. Manuel and Carmencita C. Directo (College of Veterinary Medicine, University

of the Philippines, Diliman, Quezon City). *Philippine Journal of Veterinary Medicine*, June-Dec. 1970, v.9, nos.1-2, p.60-65. tables. 5 refs.

Transmission experiments in chicken showed that *Culex fatigans* is an intermediate host of *Plasmodium juxtannucleare* in the Philippines. Attempts to infect *Aedes aegypti* and *A. albopictus* were unsuccessful.

595.78:591.15

Butterflies. Papilio polytes.

167. Biology of papilio polytes ledebouria eschsch. Henrietta Alensonorin. Cebu City, Graduate School, University of San Carlos, June 1970. 114. 80p. 14. tables, illus. 35 refs. (Thesis. M. S. in Biology)

The study was made on 2 female forms, *Papilio polytes horsfieldi* Reak. and *P. polytes praxilla* Jord. It was noted that the characteristics of the different varieties of polymorphic females are under polygenic control, thus the appearance of these females are constant, such as the existence of the stumpy tailed *P. polytes praxilla* in different generations. Environmental factors, such as light, food plants, temperature, rainfall, wind, parasites and predators are responsible for the existence of the polymorphic females. The polygenes have little effect on a particular gene and the actions of polygenes are subjected to natural selection.

MEDICAL SCIENCES

ANATOMY

611-013.8:612.015
Placenta - Analysis.

168. **Intracellular water measurements in human placental slices.** Alberto G. Romualdez, Jr. and Augusto D. Litonjua (Dept. of Physiology, College of Medicine, University of the Philippines, Manila). *Acta Medica Philippina*, ser. 2, Oct.-Dec. 1970, v.7, no.2, p.82-84. tables. 4 refs.

The intracellular water content of term human placental slices was measured using different radioactive markers to tag the extracellular space. ^{14}C -labelled sucrose and ^{14}C -labelled mannitol gave identical values of 0.31 and 0.32 ml/g tissue, respectively, while ^{14}C -labelled insulin gave 0.49 ml/g. Insulin, estradiol and cortisone did not significantly affect the water content of the placental slices.

611.37:576.31
Pancreas - Cytology.
Cell differentiation.

169. **Ultrastructure of pancreatic cells of rhesus and South American squirrel monkeys.** Antonio S. Recela, Jr. (Veterans Memorial Hospital, Quezon City) and Donald J. Syoboda (University of Kansas Medical Center, Kansas, U.S.A.). *Proceedings of the Philippine Society of Endocrinology and Metabolism*, 1970, no.3, p.1-9. illus. 17 refs.

The islet cells in the tail of the pancreas in both the rhesus and squirrel monkeys were studied by light and electron microscopy. Alpha, beta and delta cells were identified. The beta cells of both species showed differen-

ces as well as similarities in the morphology of their granule cores. These features indicate only relative specificity of beta granules particularly when closely related species are examined. Other features of beta cells as well as other cell types are described.

PHYSIOLOGY

612.015
Trace elements.

170. **Trace elements: How essential are they?** Flora A. Azares. *Bulletin of the Nutrition Foundation of the Philippines*, June 1970, v.10, no.6, p.3-6. 6 refs.

Recent studies revealed that dietary deficiencies of cobalt, copper, fluorine, iodine, manganese and zinc cause impaired growth, skeletal deformities, reproductive disorders and abnormalities of the skin. However, excessive amounts of trace elements have also been found to produce toxic effects to the body, such as fluoride which causes kidney injury and thyroid dysfunction, and copper which causes hepatocentric degeneration or "Wilson's disease". In the Philippines, studies on fluorine in the reduction of dental caries proved successful.

The presence of trace elements in foods and animal tissues is as beneficial as the essential macro nutrients, and these are also involved in numerous biochemical reactions taking place in humans and animals.

612.12/.14
Blood pressure determination.

171. **The effects of change of position on the blood pressure.** Normamina Santos and Catalino T. Jocson. *Journal*

of the Veterans Memorial Hospital, Nov. 1968, v.2, no.4, p.15-18. 3 refs.

The blood pressures of 50 surgical patients were studied. Results showed an elevation in the systolic blood pressure of 10-20 mm Hg in 52% of the cases when taken in the 10°-20° head-down position and of 10-40 mm Hg in 70% when in the horizontal position with both legs raised. A drop in blood pressure was noted in 28% of the cases when in the 10° tilt and in only 8% when in the horizontal position. Therefore, in the management of shock, the ideal position of the patient is flat in bed with the legs raised.

612.65

Infant, Newborn. Infant care.

172. The apgar score and its prognostic value. Aurea B. Tobias-Quiroz, Ofelia S. Carlos and Virgilio V. Oconer (Pediatric Service, Veterans Memorial Hospital, Quezon City). *Journal of the Veterans Memorial Hospital*, Nov. 1968, v.2, no.4, p.25-30. graphs, tables. 5 refs.

The Apgar scores of 500 babies were studied. Results indicated that babies with low birthweights have lower scores than those with higher birthweights; however, most cases attained higher scores after 5 min. Also, babies delivered spontaneously, and by elective Cesarean section and elective vacuum extraction gave higher scores both at 1 and 5 min scoring. It was noted that the percentages of morbidity and mortality were higher among babies with low Apgar scores than among those with high scores.

The importance of Apgar score as a guide to the prognosis of a newborn infant is emphasized.

612.664:615.74(=914)

Lactation - Drug effects.

Estrogens - Therapeutic use.

173. Suppression of lactation by a single injection of an estrogen progestogen-androgen combination. E. Maxlen Fernandez, Delfin A. Tan and Dale Andrada-Capulong (Dept. of Obstetrics and Gynecology, Far Eastern University, Manila). *Journal of the Philippine Medical Association*, April 1970, v.46, no. 4, p.183-189. tables. 8 refs.

Clinical trials with SH70 924 were made on 115 Filipino mothers. Results showed that a single intramuscular injection of the drug successfully inhibited lactation and suppressed incipient or even existing lactation within a short time after injection.

POPULATION. DEPOPULATION.

614.1(914)

Population density.

174. The Philippines: A population on the increase. Mercedes B. Concepcion (Population Institute, University of the Philippines, Diliman, Quezon City). *Journal of the Veterans Memorial Hospital*, Nov. 1968, v.2, no.4, p.42-47. tables.

The present population is 34 million, with an estimated annual increase of over 3% per annum, such that the population will double in less than 23 yrs. The most recent birth rate is 45.6 birth/1000 persons. Early marriage of women combined with lengthening life expectancy plus low rate of childlessness contribute to the high birth rate. The population is unevenly distributed among the regions with population densities ranging from 101 to 406 persons/sq. mi. In Manila, there is a man to land ratio or over 80,000 persons/sq. mi. No close

correlation was found between the density of population and prosperity. A reduction in birth rate is recommended to improve economic conditions.

614.1(914)

Family planning.

175. Introduction of family planning to Philippine communities through maternal and child health clinics (1968-69). Fe del Mundo and Querubin Fulgencio (Institute of Maternal and Child Health, Quezon City). *Journal of the Philippine Medical Association*, May 1970, v.46, no.5, p.263-275. map, tables, illus. 7 refs.

Family planning service clinics have been established in 39 provinces and 100 puericulture centers. The service included different types of courses ranging from 5 days to 1 mo. which were extended to 3048 government and private medical and paramedical teams, and lay individuals. 57,766 mothers out of 374,576 were motivated, of which 8255 took pills, 5958 accepted the rhythm method, 990 used intra-uterine devices and 2896 accepted other methods. Religion was considered an obstacle in family planning activities.

PHARMACOLOGY.

615.5:616-006:578.083

Plants, Medicinal.
Aristolochiaceae.

176. Sex difference in response to aristolochic acid, a carcinostatic agent. Leticia T. Angeles, Jesusa A. Concha and Benjamin D. Canlas, Jr. (College of Medicine, University of the Philippines, Manila). *Proceedings of the Philippine Society of Endocrinology and Metabolism*, 1970, no.3,

p.10-22. graphs, tables. 17 refs.

Experiments with mice showed that the females exhibited more marked tumor inhibition as compared to the males at doses higher than the Ed50. This sex difference also observed in acute and chronic toxicity studies was most evident in the hematopoietic system. The higher antitumor activity and mortality in females could be due to an indirect effect of sex hormones. Aristolochic acid was found a violent abortive.

615.5:616-006.6:578.083

Plants, Medicinal. Papayas.

177. Papaya leaves contain drug against cancer? *Animal Husbandry and Agricultural Journal*, Dec. 1970, v.5, no.12, p.33.

Studies made in the National Institute of Science and Technology (Manila) revealed that carpaine, a substance found in Philippine papaya leaves, possesses anti-cancer properties. It was found out that carpaine is most effective against a particular type of leukemia (L120), moderate on some type of tumor cells (Ehrlich ascites) and least effective against another type of leukemia (P388).

615.73:616-002.4

Antacids - Therapeutic use.

178. Clinical evaluation of the antacid MDC-1003. Emmanuel Vit Samson, Leonor R. Calimlim, Wilhelmina K. Ochoa and Evelyn Gueco. *Santo Tomas Journal of Medicine*, Sept.-Oct. 1967, v.22, no.5, p.317-322. chart, graph, tables. 10 refs.

Preliminary observations obtained in 26 peptic ulcer patients showed sig-

nificant antacid activity of MDC-1003 as determined by both clinical and laboratory procedures.

615.73:616-002.4

Antacids - Therapeutic use.

179. Evaluation of a new antacid. Laboratory evaluation- a preliminary report. Emmanuel Vit Samson and Caridad B. Asiddao (Head and Asst. Prof., respectively, Dept. of Physiology, Faculty of Medicine and Surgery, University of Santo Tomas, Manila). *Santo Tomas Journal of Medicine*, Sept.-Oct. 1967, v.22, no.5, p.310-316. graph, tables. 9 refs.

Laboratory results on 12 control rats and 12 experimental rats using the new combination of hydrated gel of Si, Bi, Al, Mg and Na oxides (MDC 1003) are presented. Comparative acid neutralizing capacity of prescribed doses of some commonly used antacids are also shown.

The "in vivo" and "in vitro" antacid activity of MDC 1003 showed that the agent has a prompt and sustained acid neutralizing effect and a protective action against ulcers induced by pyloric ligation

615.777:616.995

Anthelmintics - Therapeutic use.
Ascariasis - Drug therapy.

180. Anthelmintic study in a rural area. Ramon A. Frauendorff (Dept. of Surgery and General Practice, Faculty of Medicine and Surgery, University of Santo Tomas, Manila). *Santo Tomas Journal of Medicine*, Sept.-Oct. 1967, v.22, no.5, p.330-331. 5 refs.

A piperazine-tyloxapol mixture, commercially known as Byrel with Super-

inone was administered to 60 children in Bo. Bocana, Maligaya Nasugbu (Batangas) at a single dose based on age. No preliminary diet or purgation was done. Complete expulsion of worms was observed in 49 of 55 cases (84.5%), as shown by the absence of worms with the second dose given a wk later. Side effects were encountered in 3-5%, consisting of mild abdominal pain, nausea and loose stools which were probably due to mechanical action of movement of parasites, and not to the drug.

No serious reactions were observed.

615.779:616.28

Otitis externa - Drug therapy.

181. Neo-ledercort undecylenate ear solution (clinical trial). Vicente T. de la Paz, Jr. (Dept. of EENT, Faculty of Medicine and Surgery, University of Santo Tomas, Manila). *Santo Tomas Journal of Medicine*, Sept.-Oct. 1967, v.22, no.5, p.323-329. tables.

Twenty patients with various stages of otitis externa were treated with Neo-Ledercort solution. 27 patients who had received other conventional otic solutions served as control. 7 patients showed marked improvement on the 1st day and 9 on the 2nd day. 4 either got worse or did not improve at all after the 4th day. The control carried a cure of 81.4%. Side reactions were practically absent in both groups. From the results presented, the efficacy of Neo-Ledercort undecylenate otic solution was found comparable with that of other conventional otic solutions.

DISEASES. PATHOLOGY.

616.001.17:616-093

Burns - Drug therapy.

Burns - Microbiology.

182. Sensitivity of organisms in open surgical wounds to topical antibacterial agents. Alfredo T. Ramirez. *Philippine Journal of Surgical Specialties*, July-Sept. 1970, v.25, no.3, p.101-105. tables. 5 refs.

The comparative susceptibility of the more common bacterial isolates obtained from 55 patients with thermal injury was determined for framycetin, gentamicin and nitrofurazone by in vitro disc sensitivity method. Results showed that *Staphylococcus aureus* was highly sensitive to the 3 antibacterial agents. *Proteus* sp. and *E. coli* were sensitive to framycetin and gentamicin. Framycetin appeared to be more superior than gentamicin for *Paracolon* sp. and *Pseudomonas aeruginosa*. However, the Gram-negative organisms were resistant to nitrofurazone.

616-006:616-03:578.083

Neoplasm proteins - Biosynthesis.

Phospholipids - Metabolism.

183. Effect of aristolochic acid on tumor phospholipids: a preliminary report. Leticia T. Angeles, Remedios A. Lapuz and Ma. Luisa E. Villarroaya (Dept. of Pharmacology, College of Medicine, University of the Philippines, Manila). *Acta Medica Philippina*, ser.2, April-June 1970, v.6, no.4, p.160-164. graphs, table, diagr. 6 refs.

Using ascitic tumor cells from mice, the effects of aristolochic acid on tumor phospholipids were analyzed by thin-layer chromatography. A low dose of aristolochic acid was found to produce a marked initial increase in le-

cithin with slight decrease in lysolecithin, while at higher doses (1-2 mg/kg), the lecithin dropped markedly with a corresponding increase in lysolecithin. An increase in protein was also noted at 2 mg/kg of the drug. The possibility of a choline phosphatide (lecithin) for a still unknown membrane structure to which m-RNA is attached in a postulated hereditary determinant of membrane architecture, the MEMBRON, is discussed.

616-006.6:616-085

Neoplasms - Drug therapy.

Mitomycin.

184. Clinical investigation of mitomycin C in advanced cancer. Carlos Tan Bon Liong, Rodolfo Abalos, Cesar Alinsonorin, Alejo A. Tiu, Benigno R. Young, Joseph Yu and Felipe Dy. *Philippine Journal of Surgical Specialties*, July-Sept. 1970, v.25, no.3, p.110-115. table. 5 refs.

Of the 14 males and 17 females aged 14-75 yrs with primary malignancies, 58.1% responded subjectively and 41.9% responded objectively to Mitomycin C therapy. The drug was found effective especially in primary hepatoma, gastrointestinal malignancies and ductal adenocarcinoma of the breast. However, varying degrees of anemia and leucopenia were noted in all cases but which were minimized with low dosage (0.5 mg/kg body weight) of Mitomycin C. No hepatic and renal damages were noted in the series.

616-008:616-056.7

Abnormalities, Multiple - Familial & genetic.

185. Oculo-cerebro-renal syndrome in four generations. Cosme R. Cagas, Miguel Celdran and Rosa Macali (Dept.

of Pediatrics, UP-PGH Medical Center, Manila). *Proceedings of the Philippine Society of Endocrinology and Metabolism*, 1970, no.3, p.45-50. diagn. 35 refs.

The report describes a Filipino family of Spanish descent in which a variant of the oculo-cerebro-renal syndrome first described by Lowe in 1952 was observed. The pedigree involving 45 direct descendants showed a sex-linked mode of transmission. The propositus was 6 wks old when first seen. He exhibited mild to moderate hypotonia and vision consisting only of light perception. Studies showed evidence of metabolic acidosis, rickets and low urinary specific gravity. The degree of mental retardation in affected males was variable. A younger brother with apparently normal vision showed evidence of mental retardation.

616-056:616-071

Urticaria.

186. Chronic urticaria: A clinical study of forty-five patients (a research by medical students). Rosalinda H. Salafranca, Celina Ponce and Johnny Fong (College of Medicine, University of the Philippines, Manila). *Family Physician*, April-June 1970, v.8, no.2, p.9-14. tables. 6 refs.

A study of 45 cases (aged 5-59 yrs) of chronic urticaria revealed that the most common etiology was allergy to certain foods notably sea foods and chicken with an incidence of 37.8% followed by inhalant allergy (mainly housedusts), drug-induced allergy and atopy, each with an incidence of 11.1%. Dermographic urticaria and urticaria due to infection had an incidence of 4.4%, and physical allergy, 2.2%. Cholinergic urticaria, insect bite urticaria, psychogenic urticaria, hereditary angioedema and malignancy were not observed.

616-07

Diagnosis, Differential.

187. Destructive differential diagnosis. Rodolfo V. Guiang. *Philippine Journal of Internal Medicine*, Sept.-Dec. 1970, v.8, nos.3-4, p.130-134. 17 refs.

Destructive differential diagnosis is briefly discussed to illustrate how it can be used to rule out a possible diagnosis. The method has been used to eliminate the diagnosis of subacute bacterial endocarditis, angina pectoris, peptic ulcer and acute appendicitis.

616.1-085 615.71

Cardiovascular disorders - Drug therapy.

188. Clinical trial with a beta-adrenergic receptor blocking agent, propranolol hydrochloride: A preliminary report. Liberato A. Casison and Francisco G. Dizon (Medical Service, Veterans Memorial Hospital, Quezon City). *Journal of the Veterans Memorial Hospital*, Nov. 1968, v.2, no.4, p.62-67. tables. 13 refs.

The effect of propranolol (Inderal) was studied in 17 patients (14-82 yrs old) with various cardiovascular disorders. The drug was found of value in the treatment of cardiac arrhythmia, angina pectoris and hypertension. The response was manifested within a short period of time after initiation of therapy. No other side effect was observed except for one case who developed congestive heart failure.

616.11-06

Pericardial effusion.

Pericarditis.

189. Case 97: Wheezing respiration and pericardial effusion. Maria Z. Grajo.

Santo Tomas Journal of Medicine, Sept.-Oct. 1967, v.22, no.5, p.343-349. 7 refs.

The case of a 45-yr-old male with presenting symptoms of dyspnea is reported. The patient developed tuberculous pericarditis with massive pericardial effusion, right heart failure and pulmonary embarrassment which gradually led to his death.

The clinical aspect of the case is discussed.

616.12:615.81

Pulmonary heart disease -

Therapy.

Resuscitation.

190. A retrospective study of cardio-pulmonary resuscitation at the University of Santo Tomas Hospital (an assessment of the "May-Day"). Nina Vicente (University of Santo Tomas Hospital, Manila). *Santo Tomas Journal of Medicine*, Nov.-Dec. 1970, v.25, no.6, p.425-430. tables. 8 refs.

The results of cardio-pulmonary resuscitation (CPR) done in 62 cases of cardiac arrest mostly 30-39 yrs old are reviewed. 31.51% of the cases were due to myocardial infarction. Only 6 survived beyond 24 hrs and there was no case of long term survival and recovery. Contributory factors for the failure of CPR are discussed.

616.12-072

Heart catheterization.

191. Cardiac catheterization experience at the University of the Philippines-Philippine General Hospital Medical Center. Andres L. Reyes, Jr., Yolanda Q.M. Sulit and Leonidez A. Paguia. *Journal of the Philippine Medical Association*, May 1970, v.46, no.5, p.243-253. tables. 7 refs.

In 1959-1969, 360 cases (aged 1 mo.-74 yrs) of various heart diseases were seen in which cardiac catheterization was done. 2/3 of the cases were congenital heart anomalies, mostly patent ductus arteriosus, and 1/3 were acquired heart diseases, mostly mitral stenosis. Some cases underwent more than one catheterization, either because the first proved unsatisfactory or it revealed other findings. Retrograde arterial approach to the left ventricle combined with right sided catheterization was used in recent cases. There were 5 mortalities in the series which could be attributed directly to the procedure.

616.12-089:615.475

Extracorporeal circulation -
Instrumentation.

192. Open heart operations using disposable plastic oxygenators, 5% dextrose in distilled water prime, normothermia, and a sigmamotor (T-M₂). Manuel S. Tayao, Hector S. Baens, Melecio F. Almeda, Andres L. Reyes, Jr., Yolanda Q.M. Sulit, Leonidez A. Paguia, Benigno M. Sulit, Jr. and Enrique M. Garcia. *Journal of the Philippine Medical Association*, April 1970, v.46, no.4, p.171-182. graphs, table, diagr. 15 refs.

The technique of cardiopulmonary bypass as adopted in the Philippine General Hospital (Manila) is discussed. The method was successfully accomplished in 6 consecutive cases (aged 7-35 yrs) of congenital heart disease and mitral stenosis with embolization. The duration of bypass varied from 5 to 55 min. No complication attributable to the method of cardiopulmonary bypass was noted in any case.

616.13/.14-07

Aortic aneurysm.

193. **Aortic aneurysms: Review of cases-an eight-year statistical survey at the Veterans Memorial Hospital.** Liberato A. Casison, Aurora A. Fernandez, Rena B. Mate and Francisco G. Dizon (Medical Service, Veterans Memorial Hospital, Quezon City). *Journal of the Veterans Memorial Hospital*, Nov. 1968, v.2, no.4, p.37-41. tables. 4 refs.

A total of 18 cases of aortic aneurysm seen at the Veterans Memorial Hospital (Quezon City) in 1959-1967 were studied. Their ages ranged from 50 to 86 yrs and most of the patients were males. All cases had a significant past history, such as hypertension, venereal diseases and pulmonary tuberculosis. In 11 cases, aortic aneurysm was established by the presence of a pulsating expansile mass, and of which 5 were further confirmed by cardiac studies, fluoroscopy, aortography or direct observation at operation. Only 1 case had resection of the aneurysm with teflon aortograph replacement but which developed embolism. Rupture of the aneurysm was noted in 4 cases.

616.15-053.1

Erythemic myelosis.

194. **Chronic erythromyelosis in a young child.** Eugene Stransky. *Philippine Journal of Pediatrics*, Aug. 1969, v.18, no.4, p.226-237. table. 88 refs.

A case of acute chronic erythromyelosis in a 16-mo.-old girl is discussed. Of importance are the following findings: hemoglobin level, 2.80 g%; red cell count, 1,410,000/cu.mm.; white cell count, 15,450/cu.mm. The platelets seemed qualitatively and quantitatively normal.

616.24-002:616-053.2:616-07
Pneumonia - Diagnosis.

195. **Pitfalls in the diagnosis and management of acute pneumonias in children.** Sonia Abrio-Lopez, Benecia C. Hong and Rolando S. Songco (University of Santo Tomas Hospital, Manila). *Santo Tomas Journal of Medicine*, Nov.-Dec. 1970, v.25, no.6, p.382-392. graph, tables. 11 refs. (Presented at the Residents' Scientific Paper Contest by the University of Santo Tomas Hospital House Staff, Sept. 23, 1970)

In 72 infants and children with acute pneumonias, 17 were incorrectly diagnosed and 53 were mismanaged. The pitfalls in the diagnosis and treatment of the cases were due to: 1) failure to perform thorough physical examination; 2) attributing expiratory dyspnea to bronchial asthma; 3) wrong diagnosis of extra-pulmonary signs; 4) errors in antibiotic therapy; 5) injudicious use of cough mixtures; 6) failure to recommend necessary hospitalization; 7) failure to follow-up patients; and 8) use of aerosols of mucolytic agents.

616.24-002.5:616-085

Tuberculosis, Pulmonary - Drug therapy.

196. **Observations in the use of ethionamide-pyrazinamide in pulmonary tuberculosis.** Giovanni Ong and Edgardo V. Julian (Tuberculosis Service, Veterans Memorial Hospital, Quezon City). *Journal of the Veterans Memorial Hospital*, Nov. 1968, v.2, no.4, p.53-61. tables. 16 refs.

Fifteen cases (38-68 yrs old) with far advanced cavitary pulmonary tuberculosis and proven or presumed resistant to streptomycin, isoniazid and paramino salicylate were treated with ethionamide (THA) and pyrazinamide

(PZA). THA was given at 0.5 g daily in 2 equal doses and PZA at 1.5 g daily in 3 equal doses for 4-26 wks. Radiologic improvement was noted in only 4 cases and progression in 5; no changes were noted in 40% of the cases. Bacteriologic sputum "conversion" occurred in 4 cases during the first 2 mo. of treatment. Symptomatic improvement of varying degrees was observed in 10 patients and clinical deterioration resulting in death occurred in 2 cases. The drug combination posed a major problem of drug intolerance preventing intensive and prolonged treatment.

616.314-006:616-089

Odontogenic tumor.

197. Odontoma: A case report. Jorge O. Gonzales and Lorenzo G. Almeda (Dental Service, Veterans Memorial Hospital, Quezon City). *Journal of the Veterans Memorial Hospital*, Nov. 1968, v.2, no.4, p.68-72. illus. 1 ref.

A case of composite compound odontoma in a 30-yr-old female is presented. The case was managed by surgery. Removal of the cystic structure in the mandible was followed by reacting proliferating fibroblasts and some fibrous connective tissues. The cavity of the mandible showed normal regeneration of bone 45 days postoperatively.

616.34-008.3-053.2 616.981.31

Diarrhea. Vibrio.

198. Bloody diarrhea in children associated with vibrio in the stools. Artemio P. Jongco, Enrique M. Ostrea, Jr. (Dept. of Pediatrics, UP-PGH Medical Center, Manila) and Potenciano Aragon (Dept. of Microbiology, Institute of Hygiene, University of the Philippines, Manila). *Philippine Journal of Pediatrics*, Aug. 1967, v.16,

no.4, p.237-240. 16 refs.

Three cases of chronic loose bowel movements in children associated with blood in the stools with or without tenesmus are presented. The finding of a positive agglutination test for vibrio in the stool of each case indicated the possibility that the vibrio may be responsible for such manifestations.

616.34-089

Pneumatosis cystoides intestinalis.

199. Pneumatosis cystoides intestinalis hominis: case report. M. Hawthorne, N. Bañez and Porfirio M. Recio (General Surgery II Service, UP-PGH Medical Center, Manila). *Philippine Journal of Surgical Specialties*, April-June 1970, v.25, no.2, p.75-81. illus. 10 refs.

The case reported was seen in a 39-yr-old Filipino male, which had a coincident chronic duodenal ulcer. Both conditions were preoperatively diagnosed and subsequently confirmed at operation. The postoperative course was uneventful.

616.35-006.6

Neoplasms, Colorectal.

200. Colorectal cancer in patients 30 years and younger. Jose C. Pangan, Jr. Rodrigo Santos and Francisco Narciso, Jr. (Dept. of Surgery and Pathology, University of Santo Tomas Hospital, Manila). *Philippine Journal of Surgical Specialties*, Oct.-Dec. 1970, v.25, no.4, p.168-178. table, illus. 12 refs.

Eight cases of colorectal cancer were seen within a 10-yr period at the University of Santo Tomas Charity Hospital (Manila), giving an incidence of 4.3%. All cases were adenocarcinomas, 2 of which were labelled mucinous adenocarcinoma; the youngest patient was a 16-yr-old female. The symptomatology

of the disease was similar to those seen in the older age group.

616.35-089

Peutz-Jeghers syndrome.

Intussusception.

201. Massive gangrenous intussusception during pregnancy in a case of Peutz-Jeghers syndrome. Jose C. Pangan, Jr., Willie Lagdameo and Rodrigo Santos (Dept. of Surgery, Faculty of Medicine and Surgery, University of Santo Tomas, Manila). *Philippine Journal of Surgical Specialties*, Oct.-Dec. 1970, v.25, no.4, p.145-157. illus. 23 refs.

A 6th case of Peutz-Jeghers syndrome reported in Philippine literature is presented. The case was seen in a 27-yr-old pregnant subject. Proctoscopy revealed multiple polyps, removed either by cautery or punch biopsy. Investigation of the patient's family revealed 5 sisters with pigmentation around the lips but had no gastrointestinal symptoms.

616.35-089.5

Hemorrhoids - Surgery.

Anesthesia, Local.

202. The merit of the use of local anesthesia in anorectal surgery. Romeo R. Gutierrez, Porfirio M. Recio, Benjamin Guerra and Antonio Montalban. *Philippine Journal of Surgical Specialties*, July-Sept. 1970, v.25, no.3, p.97-101. 5 refs.

In 84 patients operated on for internal and external hemorrhoids, local anesthesia was adequately employed. Relaxation of the anal sphincter muscles was satisfactory within 4-5 min and the anesthesia lasted for 1 hr. 16 cases had to be catheterized postoperatively. It was noted that the use of hyaluronidase in 14 cases did not favorably in-

fluence the effect of the local anesthetic. The average postoperative hospital stay was 3-9 days.

It is believed that the use of local anesthesia in anorectal surgery is safe, satisfactory and economical, and is recommended especially where an anesthesiologist is not readily available.

616.36-053.2

Jaundice, Neonatal - Metabolism.

203. Persistent jaundice from birth. Adelaida E. Dalmacio-Cruz. *Philippine Journal of Pediatrics*, Aug. 1967, v.16, no.4, p.264-271. illus. 1 ref.

The case of a male infant (1 yr, 3 mo. old) with hepatic jaundice which ended in death is reported. Clinical findings revealed that the pathogenesis of the biliary anomalies is not genetic but rather due to a teratogenous trauma during the embryonic and fetal life. Although a positive Benedict's reaction and a negative Testape were obtained, it appeared from the negative phenylhydrazine test for osazone crystals that the case is not that of galactemia.

616.36-07

Bladder fistula - Diagnosis.

204. Abdominal distention and umbilical discharge. Enrique L. Esquivel, Jr. *Philippine Journal of Surgical Specialties*, Sept.-Oct. 1967, v.22, no.5, p.267-272. illus.

The case was seen in a 52-yr-old female admitted in Far Eastern University Hospital (Manila) because of fecaloid discharge from the umbilicus. 3 wks prior to admission, she had slight intestinal distention and tympanism. The presence of intestinal obstruction and a positive *E. coli* culture from the umbilical discharge suggested an asso-

ciated intestinal pathology; the fluid character and yellow color of the discharge, a possible gall bladder origin, the fecaloid odor, positive *E. coli* culture and the absence of bile in the discharge, an enterocutaneous fistula. The operative diagnosis indicated cholecystocutaneous fistula, multiple cholelithiasis and marked adhesions in the gall bladder and portal areas.

616.36-076

Liver diseases - Diagnosis.

205. Liver biopsy as a diagnostic aid.

Violeta A. Manalastas (Medical Service, Veterans Memorial Hospital, Quezon City). *Journal of the Veterans Memorial Hospital*, Nov. 1968, v.2, no.4, p.19-24. tables. 9 refs.

A modified Menghinis technique was used in the liver biopsy of 77 cases of varied clinical conditions, such as primary liver diseases and other diseases associated with hepatomegaly. Liver biopsy confirmed the clinical diagnosis in most cases. It was also found valuable in prolonged and intense jaundice. No serious complication or mortality was attributable to the procedure.

616.36-089

Biliary tract - Surgery.

Duodenal obstruction - Surgery.

206. External choledochoduodenostomy as primary procedure of choice.

Prudencio S. Samson and Jose H. Gonzales (Dept. of Surgery, UE-Ramon Magsaysay Medical Center, Quezon City). *Philippine Journal of Surgical Specialties*, Sept.-Oct. 1967, v.22, no.5, p.238-246. tables. 19 refs.

The procedure was done in 30 patients, aged 14-74 yrs, to relieve obstructions in the biliary tract. It was

done as primary procedure in 20 patients and as secondary in 10. Choledochoduodenostomy was considered absolute or relative in certain obstructions mostly due to stones. There was one death which was not directly related to the procedure. 25 patients showed general improvement both clinically and post-operatively. Not one developed cholangitis.

616.379-07

Dermatoglyphics. Diabetes mellitus - Diagnosis.

207. Dermal configurations in maturity-onset diabetics.

Flora M. Pascasio (Dept. of Medicine, UP-PGH Medical Center, Manila). *Proceedings of the Philippine Society of Endocrinology and Metabolism*, 1970, no.3, p.33-36. tables, illus. 2 refs.

The Faurot finger print technique was used to determine the dermal configurations in 85 normals and 85 maturity-onset diabetics. Analysis of the frequency of occurrence of 8 finger print patterns and flexion creases showed that the maturity-onset diabetics had significantly more double loop patterns in the thumb and index fingers of both hands as well as flexion creases in the first interdigital area and along the hypothenar eminence. This suggests that dermatoglyphics may serve as a useful tool in genetic studies of diabetes mellitus or in the recognition of this disorder.

616.38-001:616-08

Abdominal injuries - Therapy.

208. Selective conservative management of abdominal trauma: A prospective study of 100 patients. Wilfredo C. Feliciano, Romeo B. Atienza, Alfredo T. Ramirez and Enrique M. Garcia (Dept. of

Surgery, UP-PGH Medical Center, Manila). *Philippine Journal of Surgical Specialties*, Oct.-Dec. 1970, v.25, no.4, p.136-144. tables. 13 refs.

Of 100 cases of abdominal trauma consisting of stab wounds, gunshot wounds and blunt injuries, 48 did not require operation and 52 were operated on. There were only 2 unnecessary laparotomies which is the lowest negative exploration rate reported compared to previous reports. No mortality or morbidity could be attributed to the mode of management and hospitalization was short.

616.38-07

Meckel's diverticulum - Pathology.

209. Meckel's diverticulum - clinical and pathologic aspects in twelve cases. Willie N. Lagdameo, Federico Cruz, Francisco Narciso, Jr. and Jose C. Pangan, Jr. (Dept. of Surgery and Pathology, University of Santo Tomas Hospital, Manila). *Philippine Journal of Surgical Specialties*, Oct.-Dec. 1970, v.25, no.4, p.158-167. tables, illus. 9 refs.

Of the 12 cases (aged 4 days-44 yrs) of Meckel's diverticulum seen in 1955-1970 at the University of Santo Tomas Hospital (Manila), 5 presented with intestinal obstruction, 2 with perforation, 1 with bleeding, 1 with simple inflammation and 3 were incidental findings. Only 1 case was correctly diagnosed preoperatively indicating the many misleading manifestations of the disease. Treatment was mainly excision of the diverticulum. Of the 9 cases with histopathologic examination, only 2 had heterotopic tissue. There was only 1 case with complication but no mortality in the series.

616.44:308

Goiter - Occurrence.

210. The distribution of thyroid disease in Calo, Bay, Laguna. Thelma Linda Lamorena, Paulo C. Campos, Sergio S. Gasmen, Juan C. Portes and Abella. Veterana (UP-PGH Medical Center, Manila). *Proceedings of the Philippine Society of Endocrinology and Metabolism*, 1970, no.3, p.37-44. map, tables, illus. 14 refs.

A survey in Bay (Laguna) revealed an incidence of 28.7% of goiter, mostly small diffuse type in both sexes; 60% of the cases were seen in those below 25 yrs old. Presuming that the population studied is homogeneous, spontaneous involution of goiters was apparent with only 3.5% developing into the nodular type. This observation suggests that iodide prophylaxis may not be necessary.

616.71-001.5:616-053.2

Humeral fractures.

211. Etiologic study of cubitus varus post-supracondylar fractures in children. Jose Ma. Lucas. *Philippine Journal of Surgical Specialties*, July-Sept. 1970, v.25, no.3, p.106-109.

A review of 315 cases (aged 3-11 yrs) with humeral supracondylar fractures revealed that 2.3% developed residual cubitus varus deformity. The factors which cause this deformity are discussed, namely: fracturing force, nature of the joints and its ligaments, muscular attachments and arrangement, nature of the fracture and management.

616.832-002.5

Tuberculosis, Spinal.

212. Pott's disease - a reappraisal. Leonor Testa-Feliciano and Gilberto

Gamez (Dept. of Neurology and Psychiatry, Faculty of Medicine and Surgery, University of Santo Tomas, Manila). *Santo Tomas Journal of Medicine*, Nov.-Dec. 1970, v.25, no.6, p.404-416. tables. 11 refs. (Presented at the Residents' Scientific Paper Contest by the University of Santo Tomas Hospital House Staff, Sept. 23, 1970)

During the period 1960-1970, 55 proven cases of Pott's disease were seen at the University of Santo Tomas Hospital (Manila). The etiopathogenesis, pathological factors and clinical features are discussed. The patients ranged in ages from 3 to 84 yrs, with most of the cases between 11 and 30 yrs old, and with a female preponderance. It is believed that the human strain of TB bacillus is the cause of Pott's disease in Filipinos. The pathology mainly involved the vertebral bodies as observed in 100% of the cases. All cases were operated on and postoperative results were encouraging.

616.85:615.851

Conversion reaction.

213. Conversion reaction - a case presentation. Eduardo R. de la Cruz, Zenaida B. Pontigon and Carmencita Barinque (St. Anne's Hospital, Manila). *Family Physician*, July-Sept. 1970, v.8, no.3, p.11-12. 1 ref.

The case was seen in a 30-yr-old married female. This case illustrated how a psychological stress can affect the somatomuscular and the somatosensory apparatus, and how the symptoms were relieved upon attainment of the intended secondary gains.

616.91-078

Chikungunya virus.

214. Further observations on chikungunya fever. Francisco F. Macasaet (Silliman University Medical Center, Dumaguete City). *Journal of the Philippine Medical Association*, May 1970, v.46, no.5, p.235-242. graph, tables, illus. 14 refs.

Forty-one cases of Chikungunya fever are reported, the youngest case being a 5-mo.-old and the oldest, 41 yrs old, with a male to female ratio of 1:17. Fever, rash and arthralgia were observed in most cases; the rash was pruritic in 36.7% and its reappearance during convalescence was noted in 3 cases. Serological evidence of sequential or simultaneous infections due to group A and A arboviruses was present in 15 cases. A four-fold rise or more in hemagglutination-inhibition (HI) antibody titer to chikungunya virus was demonstrated in 36 paired sera, while high stationary level was noted in 3 cases. The peak of HI titer was observed 1-4 wks after the onset of illness and when paired sera were collected 11-16 days apart.

616.934-053.1:616-085

Diarrhea, Infantile - Drug therapy.

215. Nalidixic acid in the treatment of diarrheas in the newborn. A. Dennis-Reis, Aurora Feliciano and Felix A. Estrada (University of Santo Tomas Hospital, Manila). *Philippine Journal of Internal Medicine*, Sept.-Dec. 1970, v.8 nos.3-4, p.119-129. tables. 3 refs.

Treatment of diarrhea with nalidixic acid was tried on 58 male and female normal full term newborns seen at the University of Santo Tomas Hospital (Manila). Improvement was noted in 40 cases, 24 of which responded

within 3 days of treatment. The effective dose was 20-40 mg/kg/day. No ill effects were observed even up to a dosage of 60 mg/kg/day and no toxic effects were noted on the kidney, liver and central nervous system. Antibiotic sensitivity tests done in 24 cases showed the incidence of *Escherichia coli* which is moderately sensitive to nalidixic acid. The decreasing effectiveness of the drug during the later part of the outbreak was attributed to decreased drug-sensitivity of the bacteria.

616.986.7(914)

Leptospirosis - Occurrence.

Leptospira - Isolation and purification.

216. Leptospirosis in the Philippines: I. Isolation studies - a preliminary report. Enrique R. Carlos, William Daniel Kundin, C.C. Tsai, G.S. Irving, R.H. Watten and C. Batungbakal. *Acta Medica Philippina*, ser. 2, April-June 1970, v.6, no.4, p.149-153. tables. 11 refs.

Isolation studies were conducted on 730 rat kidneys and 55 non-rodent sources including man, pig, dog, carabao, cat, steer and house shrews. Results showed a high incidence (20%) of leptospiral infection in rats. 8 serogroups were tentatively identified, 4 of which are reported for the first time in the Philippines, namely, *L. grippotyphosa*, *L. pomona*, *L. autumnalis* and *L. icterohemorrhagiae*.

616.986.7-057(914)

Leptospirosis - Diagnosis.

217. Studies on leptospirosis in the Philippines. II. Report of Leptospirosis (swineherds disease) among workers in a piggery farm. Teodulo M. Topacio, Estela G. Famatiga, Meliton Novilla,

Jose V. Tacal, Jr., Marolo Garcia and Milagros Suva. *Philippine Journal of Veterinary Medicine*, June-Dec. 1970, v.9, nos.1-2, p.66-74. 30 refs.

Two cases of "swineherds disease" among piggery farm workers are reported for the first time in the Philippines. Both cases were found serologically positive. *Leptospira pomona* was subsequently isolated from a pig that aborted.

616.995-085

Schistosomiasis - Drug therapy.

218. A preliminary report of early schistosomiasis japonica cases-treated with sodium antimony dimethylcysteine tartrate (NaP). Alfredo T. Santos, Jr., Bayani L. Blas, Lamberto E. Eugenio and Gerundo P. Portillo (Bethany Hospital, Tacloban City). *Journal of the Philippine Medical Association*, May 1970, v.46, no.5, p.254-258. tables. 5 refs.

Intramuscular injection of sodium antimony dimethylcysteine tartrate (NaP) proved 100% effective in 10 cases (aged 17-40 yrs) of schistosomiasis japonica. The drug was given at a daily dose of 400 mg and in most cases it was well tolerated. 2 cases complained of nausea, vomiting and body weakness and cardiac toxicity in 9 cases. Further study on the value of NaP for mass treatment in endemic areas is suggested.

OPHTHALMOLOGY

617.71:578.08

Phlyctenulosis.

219. Experimental phlyctenulosis. Geminiano de Ocampo, Hector Sulit, Eloisa Madraso and Ruperto Abendano (Philippine Eye Research Institute, University of the Philippines, Manila). *Philippine Journal of Surgical Special-*

ties, Jan.-March 1970, v.25, no.1, p.14-20. table, illus. 14 refs.

Irregular diffused keratitis with punctuate opacity was successfully produced in rabbits intravenously sensitized by B.C.G. and challenged locally by autolized B.C.G. antigen. The condition produced may be a counterpart of human phlyctenulosis or it may be similar to other forms of tuberculosis allergic keratitis in man.

617.71:616-089.1

Cataract extraction.

220. Rapid hemodilution in ophthalmology. Filemon E. Olegario, Jr. (Faculty of Medicine and Surgery, University of Santo Tomas, Manila). *Santo Tomas Journal of Medicine*, Nov.-Dec. 1970, v.25, no.6, p.371-381. tables, illus. 11 refs.

Cataract extractions were done on 414 cases with an average age of 60 yrs. 34 cases had postoperative collapse of the anterior chamber, 20 of which were given fast hemodilution. Rapid hemodilution was found a potent agent in eliminating blood, pus and other toxic substances from the anterior chamber, and in improving the vision.

617.71:616-089.8

Pterygium - Surgery.

221. Bare sclera technique for mass excision of pterygium - an evaluation. Bienvenido V. Cabral (Dept. of Ophthalmology, Philippine General Hospital, Manila). *Philippine Journal of Surgical Specialties*, Oct.-Dec. 1970, v.25, no.4, p.126-135. tables, illus. 9 refs.

The study involved 65 eyes of 59 patients operated on for pterygium by the bare sclera technique. The opera-

tive procedure was found easy, simple and economical, and did not necessitate postoperative follow-up. There was a low incidence of pterygium recurrence. Granuloma formation was noted in cases where postoperative treatment consisted only of antibiotic ointment, this indicating the possible relationship between granuloma formation and pterygium recurrence and the use of ophthalmic ointments. The combined antibiotic-steroid solution treatment postoperatively is recommended to reduce the incidence of pterygium recurrence.

GYNECOLOGY

618.1:616-097

Hydatidiform mole - Diagnosis.

222. Immunologic studies of hydatidiform fluid antiserum. Flora M. Pascasio (Research Service, Veterans Memorial Hospital, Quezon City). *Acta Medica Philippina*, ser.2, Oct.-Dec. 1970, v.7, no.2, p.36-39. illus. 11 refs.

Antiserum to hydatidiform mole fluid (A-HMF) and to human chorionic gonadotrophin (A-HCG) were produced and reacted to different hormone antigens. Only the mole fluid from different patients and HCG gave positive reactions. Negative reaction was observed when A-HMF was reacted to other hormone antigens. 3 precipitin arcs were noted between anti-mole fluid and mole fluid on immunoelectrophoresis, one of which disappeared when antiserum to mole fluid was absorbed with HCG. This study suggests the presence of antigens other than HCG in mole fluid which may prove useful and more sensitive in detecting hydatidiform moles.

618.14:616-008

Functional bleeding.

223. Functional bleeding: an evaluation of 1524 cases admitted to the Dr. Jose Fabella Memorial Hospital. Herminia Baja-Panlilio and Emma A. Robles (Dept. of Gynecology, Dr. Jose Fabella Memorial Hospital, Manila). *Philippine Journal of Surgical Specialties*, April-June 1970, v.25, no.2, p.45-61. tables, illus. 6 refs.

Of the 1524 clinically diagnosed cases of functional bleeding, 1401 had curettage for diagnosis and/or treatment, 75.2% of which were proven by pathological examination. This indicates the value of curettage in establishing the diagnosis of functional bleeding. 20% were excluded as due to aberration of pregnancy, growth, infection and blood disease, and 4.1% showed that the endometrium was not inconsistent with the clinical diagnosis of functional bleeding, abortion, ectopic pregnancy, menses of ovulation bleeding. Difficulties were encountered in the differential diagnosis of cases of old abortions where the placental tissue was grossly or microscopically absent, and in cases of endometrial hyperplasia associated with acanthoma.

618.15/.16:616-002

Genitalia, Female. Infection.

224. Genital infections in the UST OPD (Obst-Gynec). Ernesto G. Moreno and Rodolfo O. Almonte (University of Santo Tomas Hospital, Manila). *Santo Tomas Journal of Medicine*, Nov.-Dec. 1970, v.25, no.6, p.417-424. tables. 5 refs.

Of the 10 unmarried and 82 married cases with genital infections examined, 32 were pregnant, the youngest in the

series being 6 yrs old and the oldest, 59 yrs old. Culture and sensitivity studies revealed common lesions, such as chronic cervicitis, cervico-vaginitis and vaginitis. The microorganisms found were *Trichomonas*, *Gonococcus* and *Candida albicans*. The most effective antimicrobials were Penicillin, Bactrim, Erythromycin and Rifampicin.

618.17:615.74 615.74:618.17

Estrogens - Therapeutic use.

Menopause - Drug effects.

225. Clinical trial of conjugated estrogen administered in graduated dosages. Leland S. Villadolid, Anacleto I. Iledan, Rosalinda C. Abundabar (Medical Research Lab., UP-PGH Medical Center, Manila). *Family Physician*, April-June 1970, v.8, no.2, p.1-7. graphs, tables. 6 refs.

The efficacy of Premarin^(R) in the treatment of the menopausal syndrome was tried in 35 cases. The drug was given at an initial dose of 1.25 mg/day and reduced to 0.625 mg/day for a treatment period of 21 days. It was most effective among the surgical and typical menopause cases, while the early and late menopause cases attained excellent response at a later period. However, all cases expressed a feeling of general well-being subsequent to estrogen therapy. Side effects were mild and infrequent, and did not necessitate withdrawal of the drug. The alterations in lipid levels observed among the menopausal cases suggest the beneficial effect of estrogen where abnormal serum lipids were associated with coronary atherosclerosis.

618.2:615.473

Intrauterine devices - Adverse effects.

226. Fragmentation, an embarrassing hazard in the removal of intra-uterine contraceptive devices. Danilo Lopez, Antonio P. Manahan and Arsenio C. Cantos (St. Luke's Hospital, Quezon City).

Philippine Journal of Surgical Specialties, Oct.-Dec. 1970, v.25, no.4, p.123-125. 2 refs.

The Novak's curette was successfully used in removing fragments in 25 cases with broken IUCDs seen at St. Luke's Hospital (Quezon City). It is suggested that the use of the Novak's curette is an efficient and painless method of removing broken fragments of IUCDs with less trauma, bleeding and pain. It is also suggested as an essential instrument in family planning centers to evaluate the endometrium of those using IUCD for many years.

618.252(=914)

Twins - Statistics.

227. Twinning characteristics of the contemporary Filipino population. Pelagia-Bayani-Sioson (Dept. of Biochemistry, College of Medicine, University of the Philippines, Manila), Ildefonso T. Cruz (Dept. of Epidemiology and Biostatistics, Institute of Hygiene, University of the Philippines, Manila) and Conrado Sioson (Dept. of Obstetrics, Maternity and Children's Hospital, Manila). *Acta Medica Philippina*, ser.2, Oct.-Dec.1967, v.4, no.2, p.56-63. tables, illus. 16 refs.

Records of births from the Philippine General Hospital (Manila) and Maternity and Children's Hospital (Manila) from 1959 to 1965 were used in the study. Twin frequency was found to be 1.17% of the total births. A mathemat-

ical model was presented for computing MZ (monozygous) type twins. The frequency of the MZ twin from the total twins was 64.3%. The ratio was 109.2 male births to 100 female births.

These birth trends in the present Filipino population are compared with several populations.

VETERINARY MEDICINE

619:616-007.4-089:636.8

Hernia - Surgery - Cats.

228. Surgical correction of a diaphragmatic hernia in a native cat. Enrique T. Carlos, Arsenio C. Directo and Luisito G. Cabaluna (Dog and Cat Hospital, Bel-Air Village, Makati, Rizal). *Philippine Journal of Veterinary Medicine*, June-Dec. 1970, v.9, nos.1-2, p.97-103. illus. 5 refs.

A case of diaphragmatic hernia in a 3-mo.-old male cat is presented. The abdominal approach to the repair of the hernia was done and followed immediately by repair of the femoral fracture by pinning.

619:616.61-085:636.7

Peritoneal dialysis.

Uremia - Blood.

229. A study on the efficacy of peritoneal dialysis in induced acute uremia in dogs. Leartes L. Tabotabo, Salvador H. Escudero, III and Lino T. de Vera. *Philippine Journal of Veterinary Medicine*, June-Dec. 1970, v.9, nos.1-2, p.1-7. table. 3 refs.

Experiments were made on 10 male and female dogs aged 7 mo.-4 yrs in which uremia was induced by urethral obstruction. Using "Inpersol", peritoneal dialysis successfully eliminated the accumulated toxic products in the blood. The blood urea nitrogen decreased from 49.2% to 20.8% after

dialysis. Also, uremic symptoms like anorexia, retching and vomiting disappeared.

619:616.937:615.361:636.91

Cortisone - Adverse effects.

Trypanosoma evansi.

230. The effect of cortisone on trypanosoma evansi infection in guinea pigs. Mario S. Tongson and Bruce H. Brown (Dept. of Parasitology and Protozoology, College of Veterinary Medicine, University of the Philippines, Diliman, Quezon City). *Philippine Journal of Veterinary Medicine*, June-Dec. 1970, v.9, nos.1-2, p.8-16. table. 13 refs.

Experiments were conducted on twenty 12-wk-old to 1-yr-old guinea pigs. Results showed that a high dose of cortisone (50 mg/kg body weight) caused shorter patent periods and faster multiplication of *Trypanosoma evansi*. This was attributed to the effect of cortisone which according to Kass and Finland adversely affects antibody production and phagocytic activity, although it was evident that the host's ability to produce antibodies was not completely inhibited. A lower dose of cortisone (25 mg/kg body weight) did not always depress the resistance of the host to such a degree as to alter the course of infection. The white blood cell picture was not affected by cortisone.

619:616.986.7:636(914)

Leptospirosis - Veterinary.

Leptospira - Classification.

231. Leptospirosis in the Philippines: 2. Serologic studies. Enrique R. Carlos, William Daniel Kundin, C.C. Tsai, G.S. Irving, R.H. Watten and C. Batungbakal. *Acta Medica Philippina*,

ser.2, April-June 1970, v.6, no.4, P.154-159. tables. 11 refs.

Results of the study indicated a high rate of leptospiral infection among Philippine livestock. Using 22 different antigenic serotypes, leptospiral antibodies were found in 12% of dogs, 55% of cattle and 28% of other livestock. The *Hebdomadis* serogroup was frequently encountered in cattle, *Autumnalis* in pigs and sheep, *Tarassovi* in carabao and *Bataviae* in dogs.

619:616.988.21:636.7

Rabies - Diagnosis.

232. An evaluation of the recent rabies outbreak in the U.P. Diliman Campus.

Jose A. Navarro and Meliton N. Novilla (College of Veterinary Medicine, University of the Philippines, Diliman, Quezon City). *Philippine Journal of Veterinary Medicine*, June-Dec. 1970, v.9, nos.1-2, p.91-96. illus. 11 refs.

Three clinical cases of rabies in mongrel dogs are reported. All cases were diagnosed using Seller's stain to demonstrate the Negri's bodies. In one case the brain lesions indicated a non-suppurative meningoencephalitis typical of viral infections.

619:616.995:636.7

Dog heart worms.

233. The status of *Dirofilaria immitis* infection in dogs in the U.P. Diliman campus.

Eduardo M. Celo and Victor C. Atienza (College of Veterinary Medicine, University of the Philippines, Diliman, Quezon City). *Philippine Journal of Veterinary Medicine*, June-Dec. 1970, v.9, nos.1-2, p.27-34. tables. 12 refs.

Of the 101 male and female dogs (7 mo. to 13 yrs) examined, 45 were positive for *Dirofilaria immitis*. How-

ever, no clinical case of dirofilariasis was observed. The incidence of infection was significantly higher than 10 yrs ago. There seemed to be a direct relationship between mosquito density and *D. immitis* infection.

619:616.995:636.4 636.4.089
Swine - Diseases and pests -
Diagnosis.
Trichinosis

234. On the serologic screening for trichinosis of pigs slaughtered in the Manila abattoir using latex-trichina antigen. Primo V. Arambulo, III (College of Veterinary Medicine, University of the Philippines, Diliman, Quezon City), Virginia Hicarte, Aurora Cada and Rustica V. Sarmiento (Div. of Research and Laboratory, Veterinary Inspection Board, Manila). *Philippine Journal of Veterinary Medicine*, June-Dec. 1970, v.9, nos. 1-2, p. 104-107. 10 refs.

Tests were made on 46 serum samples from locally born foreign and mixed foreign-native breeds of pigs. Results showed that all were serologically negative for trichinosis.

619:616.995:636.92
Rabbits - Diseases and pests.
Notoedres cati.

235. *Notoedres cati* in the lymph nodes of a rabbit. Mario S. Tongson and Meliton Novilla (College of Veterinary Medicine, University of the Philippines, Diliman, Quezon City). *Philippine Journal of Veterinary Medicine*, June-Dec. 1970, v.9, nos. 1-2, p. 108.

The present finding indicated that in heavy infestation, *Notoedres cati* may behave like *Demodex canis* and accidentally invade the circulatory or lymphatic system, and thus, be recovered in other tissues including the lymph nodes.

619:636.5:616.981.49(043)
Poultry - Diseases and pests.
Colistin sulfate.

236. Preliminary studies on the effect of colistin sulfate on broilers naturally infected with *Salmonella* sp. and naturally and experimentally infected with Avian PPLO organisms. Fortunato O. Veñegas. Diliman, Quezon City, College of Veterinary Medicine, University of the Philippines, Nov. 1970. 4ℓ. 30p. tables. 30 refs. (Thesis. Doctor of Veterinary Medicine)

Results of studies made on day-old Garrison-Vanguard chicks with salmonellosis showed that colistin sulfate significantly reduced mortality. However, the drug did not totally eliminate the *Salmonella* organism. Also, the antibiotic proved effective as an adjunct in the chemotherapy of chronic respiratory disease. The drug was more effective given parenterally at a dose of 1000 I.U. than the enteral route at a dose of 2,000,000 I.U./gal of drinking water.

619:636.58:615.371(043)
Poultry - Vaccination.

237. Studies on animal vaccination: II. The use of skimmilk with NCD (water) vaccines. Rustico Rio Rey. Diliman, Quezon City, College of Veterinary Medicine, University of the Philippines, Dec. 1970. 4 ℓ. 18p. graphs. 14 refs. (Thesis. Doctor of Veterinary Medicine)

Results showed no differences in the serum HI-titer readings among the 240 Cobbs broilers given vaccines with either skimmilk or plain water. It was noted that skimmilk neither stabilize nor prevent the adverse factors in the chlorinated water from reducing the effectivity of the NCD vaccines.

619:636.7:616-089

Dogs - Wounds and injuries.

Dogs - Surgery.

238. Tenectomy of the superficial digital flexor tendons in the dog. Jose A. Solis and David J. Ezersky (Dept. of Veterinary Anatomy, College of Veterinary Medicine, University of the Philippines, Diliman, Quezon City). *Philippine Journal of Veterinary Medicine*, June-Dec. 1970, v.9, nos.1-2, p.75-84. illus. 4 refs.

Five adult male and female mongrel dogs were used in the study. Tenectomy of the superficial digital flexor tendon performed on the 4 limbs of the dog had no ill-effects on the stance, gait and functional activities of the appendages or on the general behavior of the dog. This indicates that in case of accidental injury of the superficial flexor tendon, the loss of its function would seem inconsequential and that its repair may be considered unnecessary.

619:636.7:616.993(914)

Dogs - Diseases and pests.

Ancylostoma ceylanicum.

239. The occurrence of *Ancylostoma ceylanicum* (Looss, 1911) in a native dog in the Philippines. Primo V. Arambulo, III, Nonette L. Jueco, Rustica V. Sarmiento and Aurora B. Cada. *Philippine Journal of Veterinary Medicine*, June-Dec. 1970, v.9, nos.1-2, p.85-90. illus. 12 refs.

The occurrence of *Ancylostoma ceylanicum* in a 9-mo.-old female stray native dog is reported for the first time. *A. caninum* was also identified.

ENGINEERING

621.039.85:621.643

Radioactive tracers.

240. Radioactive tracers to mark interface and measure intermixing in pipelines. B.B. Pablo, A.C. Gopez and R.G. Bayani (Research and Development Div., Philippine Atomic Energy Commission, Manila). Manila, Philippine Atomic Energy Commission, Aug. 1970. 2ℓ. 4p. 4ℓ. graphs, tables. [PAEC (D) 705]

Results indicated the possibility of using Au-198 as tracer in spite of its fast diffusion with oils. The spread of radioactivity in subsequent clouds monitored increased with distance traversed. Mixing, forward dilutions, possible separation of gold from oil, disturbances in flow pattern and differences in static head contributed significantly to the spread discrepancies. About 70% of radioactivity served as boundary of the interface. Further trials are recommended before actual application of the technique.

622.22:693.5

Mines and mining - Concrete construction.

241. Concreting at Atlas underground mine. D.C. Dira (Atlas Consolidated Mining and Dev. Corp., Toledo City, Cebu). *Philippine Mining Record*, May 1970, v.4, no.6, p.18-19. illus.

The application of mechanical placing of concrete using "Flocrete" concrete placers was adopted. 3 standard concrete forms were used, namely, horse shoe shape, circular shutterings and half-oval wooden forms. Early stripping is recommended such that any necessary repairs or surface treatment may be carried out while the concrete

is still fresh and conditions are thus most favorable for bonding.

622.367(914)(043)

Asbestos.

242. A critical investigation of Philippine asbestos (obtained from Philippine Asbestos Mining Company) for gooch crucibles. Ma. Perfeccion Veloso-Loy. Cebu City, Graduate School, University of San Carlos, April 1970. xvi, 106p. 3l. 13 refs. (Thesis. M.S. in Chemistry)

Studies made on 3 Philippine asbestos samples showed that the fibrous ones were more resistant than the powdery and non homogeneous asbestos. All samples showed varying degrees of resistance towards different chemicals and temperature treatment (105°-110°C). While there is no standard pretreatment method to produce asbestos suitable for any application, pretreatment with HCl and NH₃ gave good results. However, it is recommended that the pretreatment should be chosen according to the intended use and kind of asbestos.

In general, the Philippine asbestos is essentially the same as the standard commercial asbestos.

626.85

Irrigation canals and ditches.

243. Determination of seepage losses in irrigation canals on the six (6) soil types in the Central Luzon State University. Napoleon F. Prieto and Honorato Angeles. *CLSU Scientific Journal*, April-June 1970, v.5, no.4, p.183-196. tables. 11 refs.

Results of the study showed a difference in seepage rates in 6 soil types. Maligaya sandy loam had the highest average total seepage value ($0.4482 \pm 0.637 \times 10^{-2}$ cu.ft/day/sq.

ft.), and Maligaya clay, the lowest ($0.0403 \pm 0.24 \times 10^{-2}$ cu.ft/day/sq. ft.). The variations in seepage rates may be due to the difference in structure, especially in the upper horizon, soil texture and porosity of the soil.

626.85

Irrigation canals and ditches -
Lining.

244. Clay-lime lining for irrigation canals: A preliminary study. Arsenio A. Pagaduan and Rogelio C. Lazaro. *CLSU Scientific Journal*, April-June 1970, v.5, no.4, p.210-221. tables. 10 refs.

Results of laboratory and field investigations showed equivalent imperviousness for lime-treated clay (cured and hand-placed) and untreated clay. For Maligaya clay soil, the addition of 2% lime considerably reduced seepage losses by 55%. Lime-treated clay showed a higher degree of cohesion between the soil particles and aggregates, indicating a greater resistance to erosive action of flowing water.

AGRICULTURE AND FORESTRY

631.41:633.18

Soils - Phosphorus content.

245. Evaluation of three phosphorus test methods for lowland rice soils. Milegua F. Layese and S.N. Tilo (Dept. of Soils, College of Agriculture, University of the Philippines, College, Laguna). *Philippine Agriculturist*, Oct.-Nov. 1970, v.54, nos.5-6, p.302-311. graphs, tables. 21 refs.

The Bray P₂, Olsen and Ayres-Hagihara methods of P determination were compared and evaluated against rice response to P additions in 14 different soils. Correlation analyses showed that the Olsen method was not affected

by soil pH or clay content. Although correlations between percentage yield and P extracted were not significant for any method, the correlation with Olsen values was higher than that with either Bray P₂ or Ayres-Hagihara values. Of the methods tested, Olsen has the widest range of applicability to lowland rice soils.

631.46

Soil fungi.

246. Fungi isolated from rice paddy soil at Central Experiment Station, U.P. College of Agriculture. Don R. Reynolds (Asst. Prof. of Biological Sciences, Florida Technological University, Orlando, Florida, U.S.A.). *Philippine Agriculturist*, June-July 1970, v.54, nos.1-2, p.55-59. table. 9 refs.

Thirty species of fungus were isolated most of which were known saprobes and a few were plant pathogens. The species identified were *Pythium*, *Phytophthora*, *Helminthosporium sigmoideum*, *Rhizoctonia rolfsii*, *Pellicularia filamentosa* and *Blastomyces*.

631.57:631.563

Fruit, Ripening of. Storage,
Controlled-atmosphere.

247. Regulation of fruit ripening: I. Refrigerated controlled atmosphere storage. Er. B. Pantastico, D.B. Mendoza, Jr., V.C. Espino, N.D. Bondad and E.R. Calaña (Dept. of Agronomy, College of Agriculture, University of the Philippines, College, Laguna). *Philippine Agriculturist*, Aug.-Sept. 1970, v.54, nos.3-4, p.120-134. graphs, tables, illus. 22 refs.

Varieties of banana, mango, lanzon, calamansi, tomato, sweet pepper and cucumber were stored in low O₂ and high

CO₂ atmospheres. Controlled atmosphere storage prolonged the storage life and ripening period at proper O₂ and CO₂ concentrations. 1% O₂, and 10 and 15% CO₂ produced irreparable peel injury and impaired the ripening process. Bananas stored in 10 and 15% CO₂ ripened earlier than those stored in 5% CO₂.

631.95

Plants, Effect of temperature on -
Methodology.

248. Development of simplified agro-climatic procedures for assessing temperature effects (on crop development). Geo W. Robertson. Quezon City, Weather Bureau, Sept. 1970. 46p. 4l. graphs, maps, tables. 58 refs. (Technical series no. 5)

A triquadratic equation considering day and night time temperatures, and photoperiod for calculating a biometeorological time scale for a cereal crop is discussed in detail. Its application to a practical, large scale cereal zonation problem is outlined. Shortcomings of the system are pointed out and the need for future model building research involving international cooperation for gathering crop data is proposed.

632.954:633.18 633.18:632.954

Weeds - Control.

249. Influence of rotary weeding and three different kinds of weedicide on the growth and yield of IR-5-47 rice variety. Demetrio E. Fontanilla and Juan Rinon, Jr. *CLSU Scientific Journal*, April-June 1970, v.5, no.4, p.197-209. tables. 16 refs.

Studies showed that rotary weeding was a better weed control method than treatment with Stam F-34 and Treflan-R. However, rotary weeding significantly reduced rice yield.

633.1:631.531
Seeds - Viability.

250. Rapid viability tests of corn, soybean, and wheat seeds by tetrazodium techniques. Anastacio T. Mercado and Jesus Ma. M. Valdez, II. *Araneta Journal of Agriculture*, Oct.-Dec. 1970, v.17, no.4, p.245-259. tables, illus. 11 refs.

The use of 2, 3, 5-triphenyl tetrazolium chloride (TTC) as rapid indicator of corn, soybean and wheat seed viability was investigated. Corn and wheat seeds which exhibited bright red to faint pink stains, and soybean seeds from dark to light red were considered potentially viable. Results of germination tests proved that tetrazolium test could be used in predicting seed viability.

633.1:632.954
Plants - Respiration.
Trifluralin.

251. Note: Respiration in resistant and susceptible seedlings treated with trifluralin. Beatriz L. Mercado and Juliana N. Sierra (Dept. of Agricultural Botany, College of Agriculture, University of the Philippines, College, Laguna). *Philippine Agriculturist*, Aug.-Sept. 1970, v.54, nos.3-4, p.115-119. tables. 5 refs.

The respiratory activity of rice, corn, sorghum and *Ipomoea triloba* seedlings treated with trifluralin was compared to that of untreated seedlings. O₂ uptake in rice, corn and sorghum was not affected by the herbicide, but with *Ipomoea*, stimulation was observed in the the first 4 hrs. At 24 hrs, the rate of O₂ uptake was brought to the level of untreated seedlings.

633.15:631.92 633.15:581.132
Corn - Experiments, Field.
Photosynthesis.

252. Photosynthetic response to drought in maize. Gary H. Heichel and Robert B. Musgrave. *Philippine Agriculturist*, Aug.-Sept. 1970, v.54, nos.3-4, p.102-114. graphs, tables. 20 refs.

The photosynthesis of leaves of 12 corn varieties in the field was measured by infrared gas analysis and correlated with leaf water potentials measured by thermocouple psychrometry. 3 distinct patterns of response to drought were found among the varieties. The CO₂ compensation concentration was increased by drought, showing that photosynthetic activity was depressed or that respiration increased independent of stomatal closure.

633.15:632.5 633.15:632.954
Corn - Diseases and pests -
Control.
Herbicides.

253. Weed control important in corn production. *Agricultural and Industrial Life*, July 1970, v.32, no.7, p.16.

Studies conducted at the U.P. College of Agriculture, College (Laguna) showed that weeds can reduce corn yield by as much as 50%. It is advised that weeding be done early during the wet season. The following herbicides are recommended: Atrazine with or without Linuron, Simazine for pre-emergence control of broadleaves and grass species and 2,4-D or MCPA for post-emergence control of sedges and broad-leaf weeds.

633.17:641.1

Sorghum - Protein content.

254. Sorghum for human consumption. Luz U. Oñate and Minerva K. Mallion (College of Agriculture, University of the Philippines, College, Laguna). *Philippine Journal of Home Economics*, July-Sept. 1970, v.21, no.3, p.24-27.

Researches on food uses of sorghum showed that it compares favorably with other carbohydrate foods in protein, mineral and vitamin content, and it can be used as substitute for other cereals like rice or corn. 9 recipes using sorghum flour were tested and were found acceptable.

633.18:631.52

Rice - Varieties.

Rice - Yield.

255. New miracle rice variety is developed. *Animal Husbandry and Agricultural Journal*, April 1970, v.5, no.4, p.16.

C4-63G was developed by the U.P. College of Agriculture, College (Laguna) from the original C4-63 variety. Its agronomic and grain characters are similar to the parent variety except for its green base and more erect leaves. It is medium short and resistant to lodging, and leaf blight and blast diseases. It yields an average of 100 cavans/ha. and gives more grains than any commercial rice variety.

633.18:631.531

Peroxidase.

Dormancy, Breaking of (plants).

256. Rice peroxidase: I. Peroxidase activity in rice seeds from the dormant to the non-dormant stage. D.R. Strength, W.T. Libunao, M.E. Flavier and A.C. Santos (Dept. of Agricultural Chem-

istry, College of Agriculture, University of the Philippines, College, Laguna). *Philippine Agriculturist*, June-July 1970, v.54, nos.1-2, p.69-78, graphs. 17 refs.

Experiments showed that the peroxidase activity was higher in the dormant rice seed than in the non-dormant seed of both H-4 and IR5 varieties. On storage, a persistent decline was noted in the enzyme activity up to the 4th wk, but no appreciable variation was observed until the non-dormant stage was reached. An increasing peroxidase activity was observed as the percentage germination increased. With both varieties, dormancy was lost at a fast rate as the peroxidase activity in the dormant seeds was lowered up to a certain stage during the transition, suggesting a probable physiological function of peroxidase in maintaining or breaking dormancy in rice.

633.18:631.57

Rice bran. Rice hulls.

257. Analysis of seven varieties of rice bran and hull. Part II. Determination of some vitamins and effect of storage. Doris D. Carangian and P.B. Sutaria (Dept. of Chemistry, University of the Philippines, Diliman, Quezon City). *Natural and Applied Science Bulletin*, July-Dec. 1970, v.22, nos.3-4, p.86-93. tables. 29 refs.

Chemical analysis showed that rice bran contains thiamine, riboflavin, niacin, ascorbic acid, alpha-tocopherol, carotene and possibly vitamin A; the rice hull was found to contain lower values of thiamine, riboflavin and niacin. Storage experiments indicated lowering of moisture content which may account for the slight increase in the vitamin contents.

633.18:631.57

Rice bran. Rice hulls.

258. **Analysis of seven varieties of rice bran and hull. Part III. Determination of some inorganic constituents.** Beatriz V. Mendoza and P.B. Sutaria (Dept. of Chemistry, University of the Philippines, Diliman, Quezon City). *Natural and Applied Science Bulletin*, July-Dec. 1970, v.22, nos.3-4, p.94-102. tables, illus. 17 refs.

Analysis by emission spectroscopy of the rice bran and hull of 7 varieties of *Oryza sativa* L. showed that rice bran contains the important trace elements in nutrition in varying amounts. The rice hull is not a good source of minerals for nutrition. It contains high silica, thus it is useful in the refractory industry.

633.18:631.67

Rice - Irrigation.

259. **Water losses and water balance studies in Philippine lowland rice irrigation.** J. Kampen and G. Levine. *Philippine Agriculturist*, Oct.-Nov. 1970, v.54, nos.5-6, p.283-301. graphs, tables. 23 refs.

The magnitudes of water losses in 46 selected areas of 7 gravity systems and 26 pump irrigated areas in Laguna and Central Luzon were determined. Average conveyance loss measured by the ponding technique was approximately 175 liters/sq.m/day, representing about 10% of average channel flow. Leakage and operational conveyance losses were variable but were usually of greater magnitude. On-farm or application losses were measured by the water budget technique. Percolation and lateral seepage averaged 1.5 mm/day. Direct drainage outflow in the gravity systems averaged 13 mm/day, resulting in aver-

age water use efficiencies of 30%, while pump system averaged 66% efficiency. The water requirement of the systems ranged from 3400 mm/season at low levels of management and control to 730 mm at high levels of management and control.

633.18:631.82

Rice - Yield.

260. **Response of rice plants grown in four potted Luzon soils to additions of boron, sulfur and zinc.** R.G. Lockard and J.C. Ballaux (University of Kentucky, Lexington, Kentucky, U.S.A.) and Emma A. Liongson (Soil Technologist, Bureau of Soils, Manila). *Philippine Agriculturist*, Aug.-Sept. 1970, v.54, nos.3-4, p.144-158. graphs, tables, illus. 12 refs.

Rice variety early Short Petah was grown in 4 soil types, namely, San Manuel silt loam (SMSL), San Fernando Clay (SFC), Bantog clay (BC) and Prensa sandy loam (PSL). The addition of S significantly increased plant yield in all soil types, B significantly increased plant yield on PSL and Zn increased plant yield only on SMSL. A significant interaction on the full grain weight between S and B treatments, and between S and Zn treatments was observed.

633.18:632.6

Rice - Diseases and pests.

261. **Destruction of rice tillers by rats in relation to stages of rice development in Luzon.** G. Keith Lavòie, F. Nelson Swink and Jesus P. Sumangil (Rodent Research Center, College of Agriculture, University of the Philippines, College, Laguna). *Philippine Agriculturist*, Aug.-Sept. 1970, v.54, nos.3-4, p.175-181. graph, table

illus. 4 refs.

A survey of the incidence of rat destruction was conducted in 35 rice paddies in Tarlac, Nueva Ecija and Laguna. It was noted that tiller destruction during the vegetative growth period was light, but increased appreciably during the reproductive and ripening stages. Damage was significantly greater in preharvested paddies where surrounding rice had been harvested than in paddies where surrounding rice had not been harvested. Further studies are suggested to determine the effect of rat cutting on rice yield.

633.2:581.3/.4

Guinea grass.

262. The gross morphology, cytology and embryology of guinea grass (*Panicum maximum* Jacq.). Mateo A. Sanchez and D.A. Ramirez. *Philippine Agriculturist*, Aug.-Sept. 1970, v.54, nos.3-4, p.159-174. tables, illus. 16 refs.

The 6 varieties of *Panicum maximum* Jacq. studied exhibited differences in gross morphological features. All varieties as indicated by chromosome counts, $2n=32$, are tetraploids. However, chromosomal groupings showed that they are allotetraploids. Abnormalities in the form of numerous laggards and partial sterility were observed. All varieties showed a low degree of sexuality, the percentage of sexual embryo, sacs ranging from 1.9 to 6.5, and asexual embryo from 73.3 to 90.4. Examination of the ovules showed a number of conspicuous enlarged hypodermal cells at the micropylar end.

633.52(914)

Jute. *Hibiscus cannabinus*.

263. Commercial potentials of jute and kenaf in the Philippines. I.C. Cagampang and H.L. Layaoen (Dept. of Agronomy, College of Agriculture, University of the Philippines, College, Laguna). *Agriculture at Los Baños*, Oct.-Dec. 1970, v.10, no.2, p.4-5. illus.

Preliminary results of varietal evaluation experiments conducted at the U.P. College of Agriculture, College (Laguna) indicated the availability of varieties with commercial possibilities. Jute green, *Corchorus capsularis* yielded 2 tons of dry fiber at 300,000 plants/ha., while Cuba 108 yielded 3 tons. The fibers are mainly used in the manufacture of burlap sacks. The other kenaf varieties with great potentials are the "spineless" lines isolated by the National Science Development Board.

633.61:631.84

Fertilizers for sugar cane.

Fertilizers - Experiments, Field.

264. Urea as a nitrogenous fertilizer for sugarcane. F.T. Tabayoyong (Research Coordinator, ESSO Standard Fertilizer & Agricultural Chemicals Co., Inc., Makati, Rizal). *Sugar News*, Aug. 1967, v.43, no.8, p.431-433, 436. tables. 4 refs.

Experiment on the effect of 5 sources of nitrogen on sugar cane was conducted in 1964 at La Granja (Negros Occidental). Urea gave the highest pre-hectare cane and sugar yields.

Field experiments on the performance of urea and ammonium sulfate were similarly conducted in various regions of diverse soil textures, climatic conditions and varieties by ESSO Research

& Engineering and PHILSUGIN. The 2 nitrogen sources were equally effective on sugar cane so that choice becomes more a matter of economics and other handling characteristics rather than of chemical composition.

633.71(043)

Tobacco, Nicotine in.

265. Determination of the amount of nicotine present in the leaves of 55 different varieties of tobacco grown under Araneta University conditions. Eladio C. Battung. Victoneta Park, Malabon, Rizal, Araneta University Foundation, Oct. 1970. vi, 2l. 5lp. tables, illus. 12 refs. (Thesis. M.S. in Agriculture, Major in Agronomy and Minor in Botany)

The analysis was done by the silicotungstic acid method. Results showed varying nicotine content among varieties. Harrison Special India and Kentucky 65 gave the highest nicotine content (an average of 3.207%), followed by H.R. 62-70, Pong Chiengmuan, Chieng Mai, Brown Leaf and Kentucky 57 with nicotine content ranging from 2.125 to 2.760%. The oriental varieties from Thailand gave low values ranging from 0.75 to 1.995% and the variety Prae was found to have no nicotine.

634.0.6

Forest planting. Tiger grass.

266. Tiger grass (*Thysanolaena maxima* Knutze) as a reforestation crop. Genesoso C. Valiente. *Reforestation Monthly*, Oct.-Dec. 1970, v.9, nos.10-12, p.5, 28-29, 30-31, 27. tables, illus.

Tiger grass is a good soil stabilizer because of its fibrous thick, compact and long roots. It can be propagated sexually and asexually, and it

grows in a wide range of altitude and varied types of climate. It has better adaptability than trees and yields its products at least more than a year from planting. It is capable of completely shading the area when planted not too far apart, thus minimizing evaporation at the ground surface and protecting the soil against the impact of the raindrops. Tiger grass may become the most appropriate species to plant in impoverish and fire-ridden reforestation areas. In the Capintalan Extension Nursery, 1070 tiger grass plants, about 1-5 yrs old have been flowering as of Jan. 1970.

634.11:631.53(914)

Apple culture.

267. Apple production. Cipriano C. Consolacion. *Agricultural and Industrial Life*, Oct. 1970, v.32, no.10, p.14, 29.

The cultural requirements of apple are discussed. In the Philippines, the Mt. Province is ideal for apple growing; Besao, Sabangan, Sandanga and Barlig are other potential sites. The native people may be used as the stock the Rome Beauty Apple foreign variety as scion. Grafted apples have been found to bear fruits 3 yrs after transplanting, and budded ones after 4 yrs. In a nursery in Utocan, Bauko (Mt. Province), a 10-yr-old grafted tree produces an average of 115 fruits.

634.38:631.531

Plant propagation.

Broussonetia papyrifera.

268. Propagating paper mulberry (*Broussonetia papyrifera*, Vent.) by cuttings in Benguet. B.F. Noble and L. Velasco II. *Agricultural and Industrial Life*, Nov.-Dec. 1970, v.32,

nos.11-12.

Experiments done on 100 cuttings taken from the mature branches of a 40-yr-old tree, gave 83% survival with an average height of 81.5 cm, 8 mo. after transplanting.

634.772:631.56

Bananas-Ripening. Ethrel.

269. Ethrel: A new ripening stimulant for bananas. N.D. Bondad, Er. B. Pantastico and D.B. Mendoza, Jr. (Dept. of Agronomy, College of Agriculture, University of the Philippines, College, Laguna). *Agriculture at Los Baños*, Oct.-Dec. 1970, v.10, no.2, p.7,16.

The study made use of mature-green "Lakatan" banana dipped in 2500 and 5000 p.p.m. Ethrel for 5 min. Fruits kept at 76°-86°F ripened in 5 days, while those kept at 66°-76°F ripened in 6 days. At both temperatures, Ethrel induced uniformity in the rate of yellowing and produced fruits with desirable qualities. This chemical is water-soluble and can be applied without the use of enclosed chambers. However, the fruits for treatment should be at the "full" stage of maturity.

634.774:631.58

Pineapples.

270. Pineapple culture for small growers. S.E. Cuevas and R.C. Barba (College of Agriculture, University of the Philippines, College, Laguna). *Agriculture at Los Baños*, Oct.-Dec. 1970, v.10, no.2, p.1-3, 5, 15. tables, illus.

The land preparation, planting, fertilization and cultivation practices are briefly discussed. In the Philippines, the planting time of small growers is between March and August, depending on the rainy season and inter-

cropping scheme. In Laguna, pineapple is intercropped with upland rice, corn and ginger. It is also a popular cash crop under coconut groves. In Tagaytay, pineapple is intercropped with coconut and papaya or coffee. Intercropping was found to increase the total income per unit area and helps control weeds by shading. On the other hand, too much shade slows growth and results in small fruits of poor quality while too much sunshine may cause sunburn injuring mature fruits. The use of CaC₂ for off-season fruiting is recommended.

635:631.58:631.55

633.18:631.58:631.55

Companion crops.

271. Idle rice land may be made productive by relay interplanting dry-land crops on flooded rice soils. B.B. Mabbayad and I.C. Cagampang (Dept. of Agronomy, College of Agriculture, University of the Philippines, College, Laguna). *Agriculture at Los Baños*, Oct.-Dec. 1970, v.10, no.2, p.11-14. graph, table, illus.

Two systems of land preparation, the puddled and non-puddled were used. Puddled transplanted rice gave a slightly higher yield than non-puddled directly seeded rice. Dry-land crops, such as bush sitao, mungo and sweet potato planted on puddled soil performed poorly. Also, a slight decrease in yield of sorghum was noted. In general, the yields of relay interplanted dry-land crops on non-puddled soil were higher than the same crops planted on puddled soil. A similar study conducted in San Ildefonso (Bulacan) gave satisfactory results. Further tests on the performance of other dry-land crops on both systems are being undertaken.

635.1/.6:631.531

Vegetables - Seed. Packing.

272. Effect of repacking methods on the longevity of vegetable seeds. A.D. Castro and R.L. Villareal (College of Agriculture, University of the Philippines, College, Laguna). *Philippine Agriculturist*, Oct.-Nov. 1970, v.54, nos.5-6, p.241-276. graphs, tables. 21 refs.

Seeds of snap beans, cabbage, lettuce, onion, sweet corn and tomato were repacked in paper (COIN), polyethylene (POLY) and cellophane-aluminum-polyethylene (CAP), and stored in ordinary and airconditioned-dehumidified rooms. Results showed that under ordinary and airconditioned-dehumidified room conditions, the moisture content of the seeds in COIN and POLY packets markedly increased, while germination and vigor index decreased. However, seeds in CAP maintained the original low moisture content, keeping its viability for 10 mo. It was shown that CAP packets can be effective only if the seeds to be repacked are dried to the desirable moisture content.

635.1/.6:631.531

Vegetables - Seed.

Humidity - Effect on seeds.

273. Moisture absorption of vacuum-sealed vegetable seeds exposed to ordinary and airconditioned-dehumidified conditions. A.D. Castro and R.L. Villareal (Dept. of Agronomy, College of Agriculture, University of the Philippines, College, Laguna). *Philippine Agriculturist*, Aug.-Sept. 1970, v.54, nos.3-4, p.135-143. tables. 9 refs.

Experiments showed that vacuum-sealed seeds of cabbage, lettuce, onion and tomato when exposed in ordinary and air conditioned-dehumidified atmosphere-

increased in weight in one day exposure, while those of bean and sweet corn increased in weight in 5 and 4 days, respectively. Moisture absorption was greater in ordinary than in air conditioned-dehumidified atmosphere. Regression analyses showed that increase in weight was more dependent on relative humidity than on temperature.

635.3/.5(914):547.979.8

547.979.8:635.3/.5(914)

Vegetables - Carotene content.

274. The availability of carotene in some Philippine vegetables. Iluminada C. Ortaliza, Isabel F. del Rosario, Ma. Minda Caedo and Aurora P. Alcaraz (National Institute of Science & Technology, Manila). *Philippine Journal of Science*, June 1969(1971), v.98, no.2, p.123-131. tables. 17 refs.

The carotene availability of "malunggay" (*Moringa oleifera* Lam.) leaves, Chinese cabbage (*Brassica chinensis* Linn.), "kangkong" (*Ipomoea aquatica* Forsk) and sweet potato (*I. batatas* Linn.) tops was estimated by the storage test on albino rats. Based on complete utilization of pure beta carotene in oil, the carotene availability in the vegetables ranged from 32.26% in malunggay to 75.95% in Chinese cabbage. The results indicated that the availability of carotene is less than that of beta carotene oil. Further examination of the results showed that utilization of carotene from the vegetable was much less than that of carotene in oil. Also, a high percentage carotene excretion was observed in rats fed with "kangkong" and sweet potato tops diets and female rats stored more vitamin A than male rats.

635.615:581.461

Plants, Flowering of.
Momordica charantia.

275. Blooming habits of five strains of *Momordica charantia*. L.A. de la Cruz and R.L. Villareal (College of Agriculture, University of the Philippines, College, Laguna). *Philippine Agriculturist*, Aug.-Sept. 1970, v.54, nos.3-4, p.89-101. graphs, tables, illus. 13 refs.

Flower opening of 5 strains of ampalaya (*Momordica charantia* L.) was noted at about 3:00 a.m. and majority fully opened at 6:00 a.m. Pollen grains germinated as early as 2:00 a.m. and remained viable for 24 hrs. The optimum time of pollen germination and tube elongation varied, ranging from 5 to 11 a.m. Receptivity of the stigma was indicated by its moist brilliant green appearance and the receptivity period lasted for about 24 hrs.

ANIMAL HUSBANDRY AND PRODUCE

636.293:595.1 619:636.293.089
 Carabaos - Parasitology.

276. A preliminary note on the examination of carabaos for *Cysticercus bovis*. Primo V. Arambulo, III (College of Veterinary Medicine, University of the Philippines, Diliman, Quezon City), W. Rose Cockrill (Animal Production and Health Div., Food and Agriculture Organization of the United Nations, Rome) and Armando C. Borjal (Slaughterhouse Inspection Div., Veterinary Inspection Board, Manila). *Philippine Journal of Veterinary Medicine*, June-Dec. 1970, v.9, nos.1-2, p.113-115. 7 refs.

The heart and masseter muscles of 1500 carabaos slaughtered at the Manila Abattoir were examined for *Cysticercus*

bovis. Not one was found naturally infected.

Further studies are being conducted to determine whether carabaos are susceptible or refractory to *C. bovis* infection.

636.293:591.1

Ear (animals) - Anatomy - Carabaos.

277. Angio-architecture of the external ear of the Philippine carabao. Jose A. Solis and Antonio B. Diaz, Jr. (Dept. of Veterinary Anatomy, College of Veterinary Medicine, University of the Philippines, Diliman, Quezon City). *Philippine Journal of Veterinary Medicine*, June-Dec. 1970, v.9, nos.1-2, p.17-26. illus. 3 refs.

A study on the gross anatomy of the external ear with emphasis on its angio-architecture was conducted on 12 adult apparently healthy carabaos of both sexes. The gross features of the bubaline ear generally resemble those of the bovine's with some exceptions. No significant difference in external characteristics was noted between the left and right ears and between the sexes. The vascular supply and drainage of the external ear of the carabao followed the same pattern as that of cattle except in the course, relations and ramifications of the auricular vessels, and the formation of extensive vascular networks and plexuses along the borders, apex and ridges of the pinna.

636.293:591.4(914)

Pancreas - Physiology - Carabaos.

278. Some anatomico-pathological observations on the pancreas of Philippine carabaos. Meliton N. Novilla, Germelina T. Baoy and Jose A. Solis (College of Veterinary Medicine, Uni-

versity of the Philippines, Diliman, Quezon City). *Philippine Journal of Veterinary Medicine*, June-Dec. 1970, v.9, nos.1-2, p.51-59. illus. 9 refs.

The pancreas from healthy carabaos of both sexes aged 10-25 yrs were studied. The gross anatomy and histology of the carabao pancreas were similar to those of the ox, and the carabao pancreas were heavier than that of the ox, the weight varying from 300 to 450 g. Very few gross lesions were noted at slaughter even if the other viscera had lesions. Dark coloration, edema and fibrosis were the only discernible changes found. Histopathologically, vascular congestion, edema and varying degrees of leukocytic infiltrations of pancreatic fatty tissues were noted. Fibroplasia of the ductal and vascular systems were observed in a few cases. These changes were associated with incomplete bleeding, fat necrosis and fascioliasis.

636.5:591.134 637.451

Poultry, Weight and measurements of.
Poultry - Egg production.

279. Standards for egg and meat-type chickens. G.O. Ranit. *Better Poultry and Livestock*, Nov. 1970, v.12, no.3, p.4-6.

The standards for egg and meat-type chickens are discussed briefly. Under Philippine conditions, broilers at 8 wks old should weigh an average of 1 kg; the males should weigh heavier than the females. The laying hens of the White Leghorn breed should average 200 eggs/yr.

636.5.082 636.5:591.3

Chickens - Embryological research.

280. Somite number determination and embryonic growth of inbred SCWL, white rock and cross red SCWL x New Hampshire. Marciano Yanga and Ceferino F. Faller. *Araneta Journal of Agriculture*, Oct.-Dec. 1970, v.17, no.4, p.234-244. tables. 4 refs.

Results of the study showed that the crossbred S.C. White Leghorn (SCWL) x New Hampshire had more pairs of somites (27-32 pairs) than the inbred SCWL (24-30 pairs). The White Rock gave 26-32 pairs of somites. The embryonic length of the 3 breeds varied slightly from each other, ranging from 15.4-18.7 micrometer space for the inbred SCWL to 17.1-19.8 for the White Rock.

636.5.085

Poultry - Feeding - Experiments.
Ipil-ipil leaf meal.

281. Study of paired feeding of pullets using high levels of ipil-ipil (*Leucaena leucocephala* Lam de Wilt) leaf meal. J.P. Mateo, M.M. Labadan, T.A. Abilay and R. Alandy (College of Agriculture, University of the Philippines, College, Laguna). *Philippine Agriculturist*, Oct.-Nov. 1970, v.54, nos.5-6, p.312-318. tables.

Feeding experiments with 30% ipil-ipil leaf meal were conducted on 22-wk-old S.C. White Leghorn pullets. Results indicated that the depression in egg production could only be attributed to ipil-ipil leaf meal in the diet.

636.58.082(914)

Poultry - Breeding.

282. Developing inborn strains of White Leghorn for the Philippines. G.O. Ranit, R.E. Anunciado and E.S.

Luis (College of Agriculture, University of the Philippines, College, Laguna). *Better Poultry and Livestock*, Nov. 1970, v.12, no.3, p.22-26; Dec. 1970, v.12, no.4, p.39-42. tables.

The breeding program involved 3 phases, namely random sample testing, pedigree-inbreeding of selected parents and test crossing inbred lines. Comparison of the one-way crosses, interse matings and commercial hybrids showed that certain mating combinations in the strain cross progeny performed equally if not better than the average record of the majority of the commercial S.C. White Leghorn hybrids. From the commercial standpoint, keeping single cross inbreds is more profitable since these crosses showed better performance than double cross inbreds in terms of hatchability, livability and egg production.

636.58.082.4:338.58

Poultry - Costs.

283. Cost of raising Single Comb White Leghorn pullets for replacement stock. Dalmacio J. Pablo and Feliciano L. Cruz (Central Luzon State University, Muñoz, Nueva Ecija). *Animal Husbandry and Agricultural Journal*, May 1970, v.5, no.5, p.24-25. table. 10 refs.

Under the conditions studied, the average cost to produce day-old S.C. White Leghorn (H&N) chicks up to 24 wks old amounted to ₱6.80. Of this total cost of production, feed represented the highest single item of expense followed by the cost of chicks, operating and miscellaneous expenses, and labor cost. The highest percentage mortality occurred during the first month of the brooding stage such that careful management during this stage should be practised.

636.7:591.11 636.8:591.11
Blood - Dogs. Blood - Cats.

284. Hematologic studies on normal dogs and cats. Enrique R. Carlos, Enrique T. Carlos, Arsenio C. Directo and Luisito G. Cabaluna (Dog and Cat Hospital, Marquez de Comillas, Manila). *Philippine Journal of Veterinary Medicine*, June-Dec. 1970, v.9, nos.1-2, p.35-50. tables. 17 refs.

The normal values for packed red cell volume (PCV), hemoglobin content (Hb), red blood cell (RBC), white blood cell (WBC) and differential counts were determined in normal dogs and cats. Several factors which may influence the various hematologic indices are discussed. Breed and sex seemed to account for variations in the values, but sex had little effect. Diet had a bearing on the hematologic levels, particularly PCV, RBC and hemoglobin concentrations. Stress, exercise and any form of stimulus may also have exerted some influence on these indices. In general, dogs had a wider range in the lymphocyte and eosinophil counts than cats.

637.17:613.22(-914)

Soybean milk.

285. Effect of changes in the formulation of soymilk on its acceptability to Filipino children. Carmen L. Puertollano, Malcolm C. Boyrne, Julian Banzon and Jesus C. Melgar. *Philippine Agriculturist*, Oct.-Nov. 1970, v.54, nos.5-6, p.227-240. tables. illus. 9 refs.

Experiments showed that soymilk can be formulated into a beverage that is highly acceptable to Filipino children. A formula containing 7% added sugar with 20 p.p.m. vanilla was found acceptable among a taste panel of 400

Filipino children. The addition of chocolate and serving the soymilk cold increased its acceptability. The use of 0.1% NaOH in the water used for soaking the beans in the preparation of soymilk also slightly increased acceptability. A mixture of 25% carabao milk and 75% soymilk was not liked as well as pure soymilk.

637.17:637.133.3/.4

Milk - Pasteurization.

Milk, Carabaos'.

286. Carabao milk: VIII. Its shelf-life after pasteurization as affected by its raw quality. V.C. Lerpido, L.C. Eala and T.A. Dulay (Milk Technology Div., Dairy Training and Research Institute, College, Laguna). *Philippine Agriculturist*, Aug.-Sept. 1970, v.54, nos.3-4, p.182-191. tables. 16 refs.

Experiments showed that the shelf-life of pasteurized milk is greatly influenced by its raw quality. Raw milk with a high bacterial count when pasteurized correspondingly gave a high bacterial count. Good quality pasteurized milk did not show any appreciable increase in bacterial content up to 72 hrs at 12°C, while poor quality pasteurized milk greatly increased in bacterial content during storage period at 12° and 30°C.

637.17:633.1

Milk, Coconut - Bacteriology.

287. Bihourly bacterial plate count of "gata" (coconut milk) stored for 24 hours at 30°C, 20°C and 10°C. William L. Fernandez, Erlinda V. Ignacio, Cresenciana K. Linga and Avelina H. Malapitan (College of Agriculture, University of the Philippines, College, Laguna). *Philippine Agriculturist*, Oct.-Nov. 1970, v.54, nos.5-6, p.202-

209. graphs, tables. 3 refs.

Rapid multiplication of bacteria in coconut milk was observed at 30°C storage temperature with a plate count of 2100×10^6 /ml coconut milk, and was slow at 10°C with a count of 2.6×10^6 . At 30°C, the predominant organisms were the Gram-positive cocci up to the 14th hr, which were replaced by Gram-negative, short rods; the prevalent form at 20°C was Gram-positive, short rods, and the Gram-positive cocci at 10°C. No bacterial endospores, and fungus and yeast colonies were observed. Changes in pH were noted during storage, the average final pH recorded being 6.1.

637.17:663.1

Milk, Coconut - Bacteriology.

288. Thermophilic, mesophilic and psychrophilic bacterial plate count of "gata" (coconut milk) stored for 24 hours at 55°C, 30°C and 10°C. William L. Fernandez and Violeta M. Lirio (Dept. of Plant Pathology, College of Agriculture, University of the Philippines, College, Laguna). *Philippine Agriculturist*, Oct.-Nov. 1970, v.54, nos.5-6, p.193-201. tables. 21 refs.

The extent of bacterial growth of coconut milk depends on the temperature and period of storage. Initial plate counts indicated that there were more mesophiles than psychrophiles, but no thermophiles were noted. However, after 24 hrs of storage at 55°C, thermophiles greatly exceeded mesophiles in number, while psychrophiles were absent. At 30°C and 10°C storage for 24 hrs, mesophiles outnumbered the psychrophiles, but no thermophiles were observed. Majority of the mesophiles and thermophiles were Gram-negative, short rod and Gram-positive, long rod, respectively, while the psychrophiles were mostly Gram-positive cocci. No

bacterial endospores, fungus and yeast colonies were noted. Coconut milk stored at different temperatures gave an average pH of 6.

637.51:636.293

Carabaos - Carcasses.

Hydrogen ion concentration.

289. Some observations on the pH of meat of Philippine carabaos (*Bubalus bubalis*). Primo V. Arambulo, III, Angela R. Constantino and Amparo N. Cuenca (Div. of Research and Laboratory, Veterinary Inspection Board, Manila). *Philippine Journal of Veterinary Medicine*, June-Dec. 1970, v.9, nos.1-2, p.109-112. graph, table. 3 refs.

A total of 154 freshly slaughtered carabaos were studied to determine the pH of meat using the electrometric method. Results indicated that the pH of carabao meat (rump, loin, fillet, round and cheeks) ranged from 4.52 to 7.42 indicating that, on the average, carabao meat has good keeping quality. It was noted that there was abrupt lowering and rising in pH after slaughtering, the rise in pH indicating the onset of putrefaction characterized by protein degradation and ammoniacal decomposition.

FISHERIES

639.2.04

Fertilizers for fish ponds.

Poultry manure.

290. Chicken manure is good for fish-ponds. *Philippine Farmers' Journal*, Third-Fourth Quarter 1970, v.12, no.3, p.16.

A comparative study on the effects of chicken manure and ammonium sulfate in fish production was conducted.

Ammonium sulfate promoted immediate growth of algae covering about 80% of the pond within 1 mo. Chicken manure promoted slow growth of algae although the effect lasted for 2 mo. The pond must be fertilized at 30 g/cu.m. H₂O, and the water in the pond should be replenished but never drained. In 3 days, 200 g algae should be planted.

DOMESTIC SCIENCE

641.56:664.8.036.5

Infants' food. Canned food.

291. Acceptability tests of strained baby foods. Lourdes T. Gonzales, Andrea E. Tinio and Elisa M. Ramilla. *Philippine Journal of Nutrition*, Oct.-Dec. 1970, v.23, no.4, p.1-11. graphs, tables. 17 refs.

The acceptability of locally processed canned baby foods consisting of 3 fruit blends and 4 meat-vegetable combinations was tested on 54 infants aged 5-12 mo. In general, all food items were found acceptable; the different food blends were well tolerated and no ill effects were observed. Of the fruit blends, preference ranked in the following order: papaya-pineapple, papaya-guava and papaya-soursop. Of the meat-vegetable foods, the liver-vegetable was preferred than beef-vegetable blends.

CHEMICAL AND ALLIED INDUSTRIES

633.5:633.49

Liquors. Sweet potatoes.

292. Liquor may be made from sweet potato. Juanita C. Bicomong and R.V. Alicbusan (Dept. of Plant Pathology, College of Agriculture, University of the Philippines, College, Laguna). *Agriculture at Los Baños*, Oct.-Dec.

1970, v.10, no.2, p.6, 14.

The possibility of producing liquor from Sweet potato No.5 (white), Mangatarem (yellow) and Deep Purple (purple) was determined using *Saccharomyces cerevisiae* var. *magne* and *champagne*. Results showed that the 3 varieties can be used for alcohol production with a percentage yield of 77.72-80.83. The purple variety gave the best kind of liquor.

664.8.036.6:576.8

Food, Packaged - Bacteriology.

293. Bacteriological examination of some locally processed foods packed in glass containers. Leonarda M. Pilac, Dionisio T. Salon and Milagros D. Gopez. *Philippine Journal of Nutrition*, Oct.-Dec. 1970, v.23, no.4, p.12-20. table. 9 refs.

Bacteriological examinations were made on samples of different brands of mayonnaise, salad dressing, sandwich spread, peanut butter, and sugar and pickled products. Microorganisms were found in some samples of mayonnaise, salad dressing, sandwich spread, sugar products and all samples of peanut butter. Marmalade and pickled products, except 2 bottles of olives were found completely sterile. Both spore and non - spore forming bacteria were noted; yeast and molds were seen in some instances. The total plate count was significant from the standpoint of spoilage, economic and aesthetic value.

664.85:634.616

Coconut.

294. Processing of young coconut (buko), *Cocos nucifera* Linn. H.Z. Manoto and A.B. Aspiras (Dept. of Agricultural Chemistry, College of Agriculture, University of the Philip-

pines, College, Laguna). *Philippine Agriculturist*, Oct.-Nov. 1970, v.54, nos.5-6, p.210-226. tables, illus. 15 refs.

The possibility of preserving young coconut meat by the addition of some chemicals was studied. Results of the sensory evaluation showed that treatment with sodium metasilfite effected fair acceptability compared to other samples with regards to flavor. Treatment with benzoic, ascorbic and sorbic acids gave slightly rancid and sour taste, although the texture of the samples was acceptable up to 12 wks storage at room temperature. Microbiological examination of the treated coconut meat revealed no microbial spoilage.

Experiments are being conducted to stimulate the organoleptic properties of processed young coconut to that of fresh coconut meat.

665.353.6:66.017

Coconut oil storage.

Coconut oil - Testing.

295. Keeping properties of edible coconut oil: correlation of organoleptic assessment with accelerated tests. Guillermina C. Mañalac and Anita Harder-Soliven (National Institute of Science & Technology, Manila). *Philippine Journal of Science*, June 1969(1971), v.98, no.2, p.133-138. tables. 5 refs.

Wet process oil, oil from granulated coconut and commercial edible oil with initial peroxide value of zero and a free fatty acid content below 0.1% oleic were evaluated. Results showed that for the commercial edible oil both the accelerated and organoleptic tests consistently indicated the absence of developing oxidative rancidity up to 11 mo. storage. The wet process oil and granulated coconut oil showed increas-

ing stability up to 10 mo. storage, while organoleptic assessment showed undesirable flavor and odor changes as early as the 3rd mo. of storage.

665.353.6:66.061

Coconut oil - Extraction.

296. A study of the wet and dry methods of extracting oil from coconut meat. Asuncion R. Aliwalas, Antonia L. Gonzales, Teresita R. Claudio and Ramon Benet (National Institute of Science & Technology, Manila). *Philippine Journal of Science*, June 1969(1971), v.98, no.2, p.139-149. graph, plate, tables, diagr. 13 refs.

The wet method of extracting oil by the hydraulic pressing gave an extraction efficiency of 79.56%, which was increased to 96.38% by further solvent extraction. Of the 3 dry methods used, prepress solvent extraction gave the highest oil extraction efficiency (99.65%) and hydraulic pressing, the lowest (76.47%). Dry hydraulic pressing is recommended for plants in the rural area; wet method for intensified food production; prepress solvent extraction for high oil recovery; and filtration-extraction method for high-quality oil and meal with low solvent, power and labor requirements.

PULP AND PAPER INDUSTRY

676.1.03:674.82

Paper making materials.
Sawdust.

297. Sawdust pulp for paper manufacture. Jose V. Zerrudo, Jaime O. Escolano, Eduardo P. Villanueva and Manuel R. Monsalud (Forest Products Research & Industries Development Commission, College, Laguna). *Philippine Lumberman*, Nov. 1970, v.16, no.11, p.10, 12, 14.

tables. 11 refs.

The kraft-pulping qualities of sawdust mixture of bagtikan (*Parashorea plicata* Brandis), guijo [*Shorea guiso* (Blanco) Blume], white lauan [*Pentacme contorta* (Vid.) Merr. & Rolfe], anonang (*Cordia dichatoma* Forst.), and apitong (*Dipterocarpus grandiflorus* Blanco) and sawdust mixture of white lauan, apitong and guijo were studied. Results showed that in both cases, the degree of cooking was comparable with the digestion of standard wood chips, applying the same sulfate pulping process. While the strength properties of sawdust pulps are comparatively lower than those of conventional wood chips, they may be useful as filler pulps for the production of printing and writing grade papers. If blended with long-fibered pulps, stronger papers can be made.

676.16:667.11

Wood pulp - Bleaching.
Kaatoan bangkal.

298. Bleached chemi-mechanical soda pulp from kaatoan bangkal (*Anthocephalus chinensis* Lamk. Rick ex. Walph.). P.M. Nicolas and O.B. Tadena (Forest Products Research & Industries Development Commission, College, Laguna). *Philippine Lumberman*, Oct. 1970, v.16, no.10, p.14, 16, 18. tables. 4 refs.

The effects of bleaching on kaatoan bangkal chemi-mechanical soda pulp were studied. Results showed that both single-stage (hypochlorite or peroxide) and 2-stage (hypochlorite-peroxide or peroxide-hydrosulfite) bleaching improved the strength properties, increased the brightness, and shortened beating but lowered the opacity of the pulp. The single-stage peroxide bleaching gave the highest pulp yield and the 2% peroxide-hydrosulfite bleaching, the

lowest.

The strength properties of the bleached chemi-mechanical soda pulp of kaatoan bangkal exceeded those of a commercial conventional pulp groundwood from Southern pine.

676.17:634.616

Coconut leaf. Pulp manufacture.

299. Preliminary studies on the composition of the coconut leaf. Josefa S. Pesigan and Concepcion G. Pigao (IRC, National Institute of Science & Technology, Manila). Manila, National Institute of Science and Technology, March 1968. 9p. tables. 9 refs. (Technical bulletin no.1)

Studies on the chemical content of

coconut leaves and its parts were undertaken to determine the possibility of utilizing them for pulp and if it can compare favorably with other materials commercially used. The whole leaf and its individual parts, such as the petiole, midrib and leaf blade, were subjected to solubility tests, extraction processes, lignin, cellulose, ash and pentosan determination processes. Results showed that the leaf blade had the highest percentage of extractions, while the midrib had the highest percentage of cellulose. The whole leaf and petiole have identically slightly lower results, indicating that they can be disregarded in pulping experiments.

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LIST OF PUBLICATIONS

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A. PERIODICALS

Acta Medica Philippina
Agricultural and Industrial Life
Agriculture at Los Baños
Animal Husbandry and Agricultural Journal
Araneta Journal of Agriculture
Better Poultry and Livestock
Bulletin of the Nutrition Foundation of the Philippines
CLSU Scientific Journal
Chemists' Quarterly
Family Physician
Journal of the Geological Society of the Philippines
Journal of the Philippine Medical Association
Journal of the Philippine Pharmaceutical Association
Journal of the Veterans Memorial Hospital
National Institute of Science and Technology
Technical Bulletin
Natural and Applied Science Bulletin
Philippine Agriculturist
Philippine Atomic Energy Commission
[PAEC (D)]

Philippine Farmers' Journal
Philippine Journal of Home Economics
Philippine Journal of Internal Medicine
Philippine Journal of Nutrition
Philippine Journal of Pediatrics
Philippine Journal of Science
Philippine Journal of Surgical Specialties
Philippine Journal of Veterinary Medicine
Philippine Lumberman
Philippine Mining Record
Proceedings of the Philippine Society of Endocrinology and Metabolism
Reforestation Monthly
Santo Tomas Journal of Medicine
Sugar News
Weather Bureau
Technical series

B. OTHER DOCUMENTS

Theses:

Araneta University Foundation
University of the Philippines
College of Veterinary Medicine
University of San Carlos
Graduate School